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Climatological Data for July, 1910.
DISTRICT No. 1, NORTH ATLANTIC STATES.

WILFORD M. WILSON, District Editor.

GENERAL SUMMARY.

The month of July, 1910, was characterized by a slight excess of temperature over the whole of the district and a decided deficiency of precipitation, except over that part of Virginia included in the district, where the average rainfall was 4.90 inches, which is about 0.80 inch above the July normal for that section and nearly twice the average amount for the remainder of the district. There were no general rains during the month, the precipitation that occurred resulting from local disturbances, in most cases of very limited duration and extent. The distribution of rain was, therefore, very uneven.

Severe local thunderstorms, accompanied in some instances with excessive rainfall for short periods, and in a few localities with damaging hail, occurred on various dates, but for the district as a whole the current month takes rank among the driest of its name in many years, particularly in the southeastern part of New York and in most of New Jersey.

About the usual number of barometric depressions passed over or adjacent to the district, which usually may be relied upon to draw inward from the Atlantic Ocean and the Gulf a generous supply of moisture for the needs of vegetation at this season, but during this month the rather unusual eastward extension of the high pressure area, that usually overlies the South Atlantic at this season, bringing the South Atlantic States under its influence, effectually cut off the source of supply, thus preventing the occurrence of more than local rains. Only once, the 16th and 17th, did a depression pass over the district south of New England, and in this instance it was not of sufficient strength to cause general precipitation.

The month was generally favorable for harvesting, but the drought in many localities caused serious damage to gardens, corn, and pasturage, and a shortage in the water supply for stock and household purposes.

TEMPERATURE.

The average temperature for the district was 73.5°, which is about 1° above the July normal, and ranged from 70.6° in New England to 76.4° for Delaware and Maryland. Very few stations reported a deficiency. The warmest days in the northern part of the district were the 9th and 10th, when temperatures of 90° or above were generally recorded. Temperatures of 99° were reported from Bedford, N. Y., New Brunswick, and Somerville, N. J., on the 9th, and from Cornish, Me., Durham, N. H., and Greenwich, N. Y., on the 10th. This hot wave, following quickly after a period of moderately cool weather, caused a large number of prostrations and many deaths, particularly among children, in the cities of the district.

In the southern part of the district the highest temperatures of the month occurred from the 25th to the 27th, except in West Virginia where the maximum, 98°, was recorded on the 1st. The extreme maximum temperatures were slightly below 100°, except at Lincoln, Va., where 102° was recorded on the 26th and 27th.

The lowest temperatures occurred on various dates, the most pronounced cool periods being from the 5th to the 7th, 18th to 20th, and the 31st. The month opened warm and, with the exception of a few cool days about the middle of the first decade, the temperature, especially over the northern half of the district, continued high until near the middle of the month. The high temperature that occurred over the southern part of the district during the third decade was of short duration.

PRECIPITATION.

With the exception of the northern part of Virginia where more than the usual amount of rain occurred, the average precipitation for the district was but little more than one-half the normal amount. As practically all the precipitation resulted from local thunderstorms the distribution was very uneven. In some few localities generous and timely rains occurred, while adjacent localities suffered from drought or received nearly the whole month's supply in a single shower. While the deficiency was general from the Potomac River north to the Canadian border, the drought was most pronounced in the southeastern part of New York and in most of New Jersey.

The following extract from the report of the section director for New Jersey indicates the extent and severity of the drought in that section:

> The most marked feature of July, 1910, in New Jersey, was the general and very decided deficiency in precipitation. Only one station within the State (Canton, Salem County) reported an excess of rain—resulting, mainly, from a heavy local storm in the middle of the month. The deficiency of precipitation amounted to 3.47 inches for the State as a whole, the average rainfall, 1.36 inch, being the smallest recorded for July in a period of 26 years. Local deficiencies of from 4.50 to nearly 5.50 inches were numerous. No other July since 1885 is comparable with the current month with respect to light rainfall, save July, 1894, when the State average was only 1.66 inch. There was, however, a more favorable distribution of moisture through the month in July, 1894, than was the case during the month just closed. The total rainfall of July, 1910, was generally less than 0.75 inch over the central counties, and mostly less than 1.50 inch over the extreme northern counties. It was somewhat heavier, but insufficient, over the southern interior, where restricted areas received from 2.75 to about 5.25 inches. The rainfall was the smallest on record for July at the following-named stations: Asbury Park (22 years), Bayonne (20 years), Belvidere (19 years), Charlotteburg (18 years), Elizabeth (31 years), Flemington (22 years), Hightstown (18 years), Lambertville (24 years), Moorestown (48 years), Newark (67 years), New Brunswick (57 years), Plainfield (24 years), Somerville (27 years), South Orange (40 years), and Trenton (38 years). Thus it would appear, considering the data of long record stations, that the month was the driest July over the greater portion of the State for many years. There were but two storms during the month (17th and 30th) that involved the entire State in precipitation, the rainfall at other times being merely scattered showers and thunderstorms.

RIVER CONDITIONS.

The rivers of the district were at a very low stage throughout the month. At the beginning of the month there was a fair flow of water in the Susquehanna and Delaware rivers, and in most of their larger tributaries, but a gradual decline set in during the first days of the month that continued without interruption, except for a slight rise about the 20th, until the close. The stage of the Mohawk was below the zero of the gage at most points throughout the month.

MISCELLANEOUS.

An unusually severe local storm, noted locally as a "cloudburst," occurred near Dawson, Md., on the 20th, destroying several valuable orchards, washing out culverts and bridges, and causing a landslide that delayed railroad traffic for several days.

The average number of days on which .01 inch or more rain fell was 7; clear days, 16; partly cloudy, 11, and cloudy, 4.

The average number of hours of sunshine for the district was 306, which is 69 per cent of the possible. The greatest amount of sunshine, 381 hours, 81 per cent of the possible, occurred at New York City, and the least, 266 hours, 57 per cent of the possible, at Albany, N. Y. The average number of days for the district with 80 per cent or more sunshine was 14; average number of days with percentage between 20 and 80, 15; and less than 20, 2.

TABLE 1.—*Climatological data for July, 1910. District No. 1, North Atlantic States.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Maine.																				
Bar Harbor	Hancock	20	24	67.8	+ 2.2	91	11	50	17†	35	1.00	− 2.02	0.20	0.0	8	19	7	5	sw.	Wm. Miller.
Cornish	York	778	55	70.2	+ 1.2	99	10	44	18	40	1.64	− 2.63	0.32	0.0	12	11	14	6	nw.	T. H. West.
Eastport	Washington	53	38	61.4	+ 1.6	86	11	49	17	32	1.92	− 1.50	0.52	0.0	9	4	16	11	s.	U. S. Weather Bureau.
Ellsworth	Hancock		0	66.2	.....	89	12	46	5	35	2.69	.....	0.73	0.0	10	17	3	11	s.	S. P. Sutton.
Fairfield	Somerset	90	25	69.9	+ 2.0	93	10	47	5	35	2.26	− 1.19	0.75	0.0	9	14	6	11	.....	Edward F. Parker.
Farmington	Franklin	450	13	67.9	+ 0.5	95	10	45	19†	37	3.10	− 0.49	0.66	0.0	12	11	18	2	nw.	State Normal School.
Gardiner	Kennebec	163	18	69.8	− 1.0	93	25	46	18	36	1.83	− 1.00	0.64	0.0	7	21	8	2	sw.	Samuel D. Soule.
Greenville	Piscataquis	1,000	6	64.8	.....	92	10	44	5	35	4.18	.....	1.00	0.0	14	.....	.....	.....	.....	U. S. Weather Bureau.
Houlton	Aroostook	362	8	68.0	.....	95	11	43	5	41	2.17	.....	1.40	0.0	9	20	6	5	nw.	Bangor & Aroostook R. R.
Lewiston	Androscoggin	185	36	71.4	+ 1.9	94	10	50	21	32	2.40	− 1.21	1.04	0.0	7	15	10	6	s.	Union Water Power Co.
Madison	Somerset	257	7	68.2	.....	97	11	46	18	36	4.01	.....	2.44	0.0	10	25	2	4	s.	Wm. Jardine.
Millinocket	Penobscot	386	7	68.7	.....	95	10	43	5	38	3.72	.....	1.60	0.0	12	9	7	15	nw.	H. S. Ferguson.
North Bridgton	Cumberland	450	17	70.9	+ 1.4	97	10	48	18	37	1.35	− 3.81	0.47	0.0	11	6	23	2	nw.	G. E. Chadbourne.
Orono	Penobscot	129	41	69.2	.....	91	10†	43	18	38	2.43	.....	0.55	0.0	8	13	10	8	sw.	Agricultural Exp. Station.
Patten	do	550	8	66.0*	.....	88*	9†	38*	5	41*	4.27	.....	1.49	0.0	11	16*	7*	3*	w*.	Bangor & Aroostook R. R.
Portland	Cumberland	99	39	69.6	+ 1.6	91	11	54	17	29	1.64	− 1.61	0.63	0.0	7	12	13	6	s.	U. S. Weather Bureau.
Presque Isle	Aroostook		0	67.4	.....	96	10	43	18†	41	6.38	.....	1.08	0.0	14	13	11	7	w.	San Lorenzo Merriman.
Rumford Falls	Oxford	505	17	69.1	+ 0.8	95	10	50	17†	34	2.22	− 1.99	0.49	0.0	10	22	7	2	nw.	Chas. A. Mixer.
Winslow	Kennebec	90	15	69.2	+ 0.7	96	10	42	18	41	2.90	.....	0.93	0.0	9	20	10	1	sw.	Hollingsw'th & Whitney Co.
New Hampshire.																				
Alstead Center	Cheshire	1,120	6	69.2	.....	90	10†	50	17†	31	1.34	.....	0.38	0.0	9	21	6	4	sw.	Frank Dewing.
Benton	Grafton		0	66.6	.....	88	10	43	20	34	3.79	.....	0.68	0.0	15	17	13	1	nw.	N. H. State Sanatorium.
Bethlehem	do	1,470	18	66.9	− 0.2	92	10	43	18	35	4.97	+ 0.87	1.44	0.0	14	15	11	5	sw.	Benjamin Tucker.
Concord	Merrimack	350	50	70.6	+ 1.5	96	10	48	18	36	0.91	− 2.88	0.23	0.0	7	13	14	4	nw.	U. S. Weather Bureau.
Durham	Stafford	88	15	70.8	+ 0.9	99	10	50	21	38	1.79	− 1.77	0.55	0.0	6	23	5	3	nw.	Agricultural Exp. Station.
Franklin	Merrimack	440	11	70.9	.....	98	10	46	18	41	1.17	.....	0.43	0.0	8	19	10	2	w.	Dr. C. P. Webster.
Grafton	Grafton	863	24	67.4	− 0.4	96	10	40	5†	43	1.74	− 2.07	0.66	0.0	7	19	8	4	nw.	Perley R. Kimball.
Hanover	do	603	76	69.8	+ 0.6	95	10	46	5†	40	1.44	− 2.22	0.54	0.0	10	3	15	13	w.	Dartmouth College.
Keene	Cheshire	506	25	69.8	+ 1.5	97	10	43	5	43	2.55	− 1.73	0.77	0.0	8	16	13	2	sw.	Samuel Wadsworth.
Nashua	Hillsboro	125	25	73.9	+ 3.2	98	10	49	5	38	2.11	− 1.50	0.78	0.0	5	14	12	5	sw.	Jackson Company.
Newton	Rockingham		22	69.8	+ 0.6	95	10	46	5†	38	1.67	− 1.95	0.77	0.0	5	15	16	0	sw.	W. C. Gale.
Plymouth	Grafton	500	22	69.0	+ 1.4	93	10	43	18	43	1.91	− 1.51	0.96	0.0	9	25	1	5	w.	Mrs. Hattie G. Trow.
Vermont.																				
Bloomfield	Essex		3	66.8	.....	94	10	41	18	41	4.17	.....	0.92	0.0	14	13	14	4	s.	Lyman Falls L. and P. Co.
Cavendish	Windsor	910	7	68.6[d]	.....	95*	10	43[d]	17†	41[d]	1.82	.....	0.52	0.0	6	17†	6†	2†	w.	Miss M. A. Kingsbury.
Chelsea	Orange	830	15	66.2	− 1.0	89	10	42	6	44	1.74	− 2.40	0.75	0.0	9	11	13	7	n.	W. F. Dewey.
Jacksonville	Windham	1,000	25	67.6	+ 2.0	93	10	45	20	37	2.65	− 2.08	0.40	0.0	11	27	4	0	nw.	Miss Martha French.
Manchester	Bennington	980	11	66.2	.....	87	10	45	5†	32	2.48	.....	0.88	0.0	6	11	18	2	sw.	N. M. Canfield.
St. Johnsbury	Caledonia	711	17	69.5	+ 1.4	93	10	44	18	39	2.92	− 1.39	0.82	0.0	13	9	16	6	nw.	Fairbanks Museum.
Woodstock	Windsor	700	18	68.4	+ 0.1	93	10†	41	29	41	1.26	− 2.07	0.65	0.0	5	11	11	9	.....	John S. Eaton.
Massachusetts.																				
Amherst	Hampshire	222	21	72.2	+ 1.7	97	24	48	5	36	1.90	− 2.67	0.56	0.0	9	28	3	0	sw.	Agricultural Exp. Station.
Blue Hill	Norfolk	640	26	72.8	+ 3.6	93	24	53	20	31	2.41	− 1.38	0.58	0.0	8	16	8	7	s.	Blue Hill Observatory.
Boston	Suffolk	124	40	74.9	+ 3.6	94	11	58	20	26	1.15	− 2.21	0.41	0.0	6	12	6	13	sw.	U. S. Weather Bureau.
Chestnut Hill	do	124	30	74.4	+ 2.8	95	24	52	5	36	1.93	− 1.69	0.51	0.0	6	28	0	3	.....	Metropolitan Water Board.
Clinton	Worcester	370	14	71.8	.....	92	10	52	19	30	1.53	.....	0.62	0.0	5	20	2	9	.....	Do.
Concord	Middlesex	139	20	71.1	+ 1.2	94	10†	47	5	37	1.63	− 1.78	0.70	0.0	7	14	12	5	s.	Fred. A. Tower.
Fall River	Bristol	200	44	73.4	+ 2.7	89	11	57	19†	24	2.54	− 1.06	1.35	0.0	7	13	18	0	sw.	C. V. S. Remington.
Fitchburg	Worcester	550	27	73.2	+ 2.7	96	10	51	20	33	1.91	− 2.31	0.55	0.0	7	19	10	2	sw.	Dr. A. P. Mason.
Framingham	Middlesex	160	30	73.2	+ 1.9	96	10	50	7	39	1.76	− 1.89	0.48	0.0	6	.....	.....	.....	.....	Metropolitan Water Board.
Hyannis	Barnstable	31	19	71.5	− 1.3	90	11	58	20	21	1.87	− 0.93	0.92	0.0	5	19	12	0	sw.	C. F. Sleeper.
Lawrence	Essex	51	26	73.0	+ 0.4	95	10	53	5†	34	2.19	− 1.13	1.00	0.0	5	12	19	0	w.	Essex Company.
Lowell	Middlesex	100	25	75.2	+ 3.7	95	10	54	5	32	1.93	− 1.76	0.81	0.0	5	.....	.....	.....	.....	Prop's Locks and Canals.
Middleboro	Plymouth	53	24	70.7	+ 1.5	90	9†	44	5	39	2.23	− 0.85	1.18	0.0	6	9	14	8	sw.	A. R. Gurney.
Monson	Hampden	420	26	71.2	+ 1.4	92	10†	45	5	36	2.62	− 2.29	1.00	0.0	5	22	9	0	nw.	Dr. G. E. Fuller.
Nantucket	Nantucket	15	24	69.4	+ 1.9	83	27	58	5†	21	4.18	+ 1.50	2.40	0.0	7	14	16	1	sw.	U. S. Weather Bureau.
New Bedford	Bristol	88	98	73.0	+ 3.6	91	11	57	19†	28	2.47	− 0.87	1.04	.....	6	24	2	5	sw.	City Engineer.
Norfolk	Norfolk	244	7	74.5	.....	97	11	47	19	35	2.29	.....	0.94	0.0	5	23	8	0	sw.	Miss Ruby H. Martyn.
Northampton	Hampshire	205	2	73.8	.....	96	24	51	4†	39	1.86	.....	0.75	0.0	5	21	6	4	ne.	D. E. Hoxie.
Plymouth	Plymouth	.....	25	70.2	.....	89	12	56	5†	28	2.39	.....	0.90	0.0	7	13	15	3	w.	Miss Laura B. Knapp.
Provincetown	Barnstable	40	23	71.6	+ 1.9	93	11	57	21	30	1.81	− 1.12	0.54	0.0	6	24	0	7	sw.	Gideon Bowley.
Rockport	Essex	25	8	70.0	.....	90	25	56	5	30	3.10	.....	1.30	0.0	5	18	5	8	sw.	C. F. B. Bearse.
Rutland	Worcester	1,160	8	71.6	.....	92	10	53	19	27	1.60	.....	0.70	0.0	5	17	6	8	sw.	State Sanatorium.
South Egremont	Berkshire	764	8	68.4	.....	92	10	44	5	37	1.89	.....	0.84	0.0	9	.....	.....	.....	sw.	Roscoe C. Taft.
Turners Falls	Franklin	200	19	74.5	+ 4.6	94	10	54	5	28	1.84	− 2.49	0.62	0.0	8	.....	.....	.....	.....	Turners Falls Co.
Westboro	Worcester	298	36	74.2	+ 2.1	95	10†	48	5	42	1.67	− 1.92	0.47	.....	6	.....	.....	.....	.....	G. S. Newcomb.
Williamstown	Berkshire	711	19	70.2	.....	93	10	49	5	34	2.61	.....	0.93	0.0	9	17	7	7	w.	Williams College.
Worcester	Worcester	518	18	73.7	+ 2.3	94	24	55	20	28	2.13	− 1.84	0.62	0.0	5	16	9	6	sw.	G. W. Swan.
Rhode Island.																				
Block Island	Newport	26	30	71.0	+ 2.9	85	11	59	7	20	1.73	− 1.58	0.67	0.0	5	16	14	1	sw.	U. S. Weather Bureau.
Bristol	Bristol	53	24	70.8	+ 1.0	87	11	56	5	21	3.63	+ 0.50	1.39	0.0	8	19	10	2	sw.	N. G. Herreshoff.
Kingston	Washington	250	21	71.6	+ 2.4	92	9	53	5†	30	2.95	− 0.81	1.15	0.0	6	17	12	2	sw.	Nathaniel Helme.
Narragansett Pier	Newport	22	28	70.5	+ 0.6	91	11	51	5	28	2.72	− 0.60	1.08	0.0	6	27	3	1	sw.	U. S. Weather Bureau.
Providence	Providence	182	6	73.6	+ 0.2	92	9†	55	7†	28	2.86	− 0.50	1.15	0.0	8	15	12	4	nw.	Do.
Connecticut.																				
Bridgeport	Fairfield	20	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	William Jennings.
Canton	Hartford	900	49	70.6	+ 2.2	91	10	49	5	33	3.00	− 1.87	1.42	0.0	5	21	4	6	nw.	G. J. Case.
Colchester	New London	370	24	72.2	+ 2.2	94	16	48	5	38	2.63	− 1.49	1.81	0.0	4	22	8	1	w.	S. P. Willard.
Cream Hill	Litchfield	1,300	14	71.5	+ 2.5	92	24	52	17†	28	2.17	− 3.89	0.80	0.0	5	22	5	4	w.	C. L. Gold.
Danielson	Windham	300	8	71.2	.....	92	9†	47	5†	38	2.76	.....	1.05	0.0	5	23	8	0	s.	F. E. Bitgood.
Hartford	Hartford	159	6	74.2	+ 2.6	93	9†	55	19†	28	2.47	− 1.64	1.35	0.0	6	9	13	9	s.	U. S. Weather Bureau.
Hawleyville	Fairfield	600	12	72.0	+ 1.1	92	9†	49	5	37	4.46	+ 0.51	2.30	0.0	4	23	7	1	w.	Edson N. Hawley.
New Haven	New Haven	107	123	74.1	+ 2.2	92	9†	56	7	27	2.26	− 2.52	1.54	0.0	4	15	14	2	s.	U. S. Weather Bureau.
New London	New London	47	40	73.6	+ 3.1	94	9	55	6	31	3.10	− 0.95	1.62	0.0	4	23	6	2	sw.	Thos. C. Dillon.
North Grosvenordale	Windham	400	20	71.8	+ 0.8	92	9†	46	4†	42	0.91	− 3.45	0.55	0.0	3	22	7	2	sw.	Grosvenor Dale Co.
Norwalk	Fairfield	116	20	73.4	+ 2.3	94	25	49	6†	39	1.40	− 3.73	0.52	0.0	6	21	9	1	sw.	Geo. C. Comstock.
Southington	Hartford	140	41	72.0	+ 0.9	92	9†	47	5	37	2.30	− 2.11	1.90	0.0	3	15	16	0	sw.	Luman Andrews.
Storrs	Tolland	640	22	71.8	+ 3.1	90	9†	51	5†	32	2.24	− 2.78	1.06	0.0	4	21	6	4	s.	Agricultural Exp. Station.
Voluntown	New London	260	25	69.4	− 0.8	91	9	42	5	42	2.90	− 1.35	1.80	0.0	5	23	4	4	w.	F. S. Bitgood.
Waterbury	New Haven	400	35	74.7	+ 3.0	95	9	50	7	34	3.04	− 2.12	1.57	0.0	6	.....	.....	.....	.....	N. J. Welton.
New York.																				
Addison	Steuben	1,000	20	71.6	+ 1.5	98	10†	45	21†	46	1.90	− 1.69	0.48	0.0	9	27	2	2	sw.	H. R. Ainsworth.
Albany	Albany	97	89	74.1	+ 2.1	96	10	55	5	31	1.28	− 2.62	0.60	0.0	9	9	20	2	s.	U. S. Weather Bureau.
Alfred	Allegany	.....	15	68.2	.....	91	9	45	5†	40	4.16	+ 0.84	1.42	0.0	9	.....	.....	.....	.....	F. S. Place.
Amsterdam	Montgomery	277	6	70.6	.....	95	10	50	5	37	2.34	.....	0.60	0.0	6	23	6	2	w.	Emery Elwood.
Athens	Greene	90	8	73.6	.....	97	25	52	5†	31	1.79	.....	1.22	0.0	8	14	16	1	sw.	E. C. Brooks.
Ballston Lake	Saratoga	400	6	70.2	.....	94	10	47	20	38	1.97	.....	0.74	0.0	10	16	14	1	w.	Geo. R. Schauber.

TABLE 1.—*Climatological data for July, 1910. District No. 1*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	
New York—Cont'd.																			
Bedford	Westchester	450	19	75.8	+ 3.9	99	9	53	7†	38	1.48	− 3.08	0.86	0.0	6	29	2	0	.....	Dr. L. Rosenberg.
Binghamton	Broome	875	19	70.1	+ 0.2	91	9	47	29	37	2.08	− 1.46	0.64	0.0	11	10	17	4	e.	U. S. Weather Bureau.
Bouckville	Madison	1,350	13	68.6	+ 0.5	91	24	47	5	35	2.40	− 2.25	0.60	0.0	10	11	12	8	sw.	L. W. Griswold.
Boyds Corners	Putnam	560	28	.....	.....	.....	.....	.....	.....	.....	2.46	− 2.24	.....	.....	.....	.....	.....	.....	.....	Thomas Manning.
Carmel	do	500	18	72.7	+ 1.6	93	10	52	6†	35	2.46	− 2.72	2.26	0.0	3	22	9	0	ne.	Do.
Chatham	Columbia	470	9	73.2	.....	96	10†	51	20	36	2.20	.....	0.88	0.0	11	21	6	4	n.	Morton R. Tank.
Cooperstown	Otsego	1,250	56	68.0	− 0.1	90	10†	48	31	29	2.04	− 2.50	1.12	0.0	6	20	10	1	w.	Elizabeth C. Keese.
Corinth	Saratoga	542	8	.....	.....	.....	.....	.....	.....	.....	1.35	.....	0.60	0.0	4	.....	.....	.....	.....	A. M. Hollister.
Cortland	Cortland	1,129	48	72.0	+ 4.9	97	10	49	5	44	2.27	− 2.61	0.84	0.0	9	23	6	2	nw.	F. G. Baker.
Cutchogue	Suffolk	32	33	72.8	+ 0.8	90	9†	52	7	31	1.92	− 1.43	1.01	0.0	3	15	16	0	sw.	Wm. A. Fleet.
De Ruyter	Madison	1,300	7	68.6	.....	91	10†	44	5	38	2.97	.....	1.28	0.0	8	12	14	5	s.	B. D. Crandall.
Easton	Washington	.....	20	.....	.....	.....	.....	.....	.....	.....	3.09	− 1.37	1.47	0.0	5	.....	.....	.....	.....	H. Taber.
Elmira	Chemung	863	31	73.2	+ 1.0	98	9	46	31	40	1.33	− 2.04	0.75	0.0	6	16	10	5	nw.	Gerity Bros.
Fort Hunter	Montgomery	280	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. E. Wing.
Fort Plain	do	316	6	73.2	.....	95	10	52	5	36	1.67	.....	0.82	0.0	6	26	4	1	w.	Abram Devendorf.
Glens Falls	Warren	340	19	72.8	+ 2.0	97	10	49	17	40	1.93	− 2.09	0.63	0.0	10	14	14	3	w.	Prof. C. L. Williams.
Gloversville	Fulton	850	18	69.5	+ 0.6	95	10†	47	5	39	2.22	− 0.97	0.76	0.0	10	16	12	3	w.	W. L. McLean.
Greenfield Center	Saratoga	314	12	71.0	+ 1.2	93	9†	52	6†	35	1.01	− 3.02	0.36	0.0	7	20	8	3	sw.	S. E. Darrow.
Greenwich	Washington	425	13	74.0	+ 3.9	99	10	51	4†	37	1.58	− 2.02	0.50	0.0	7	11	19	1	w.	Homer J. Whitcomb.
Griffin Corners	Delaware	2,260	10	68.1	.....	93	10†	42	17	44	2.37	.....	0.72	0.0	7	15	13	3	nw.	Kelsey H. Kelly.
Haskinville	Steuben	.....	15	.....	.....	.....	.....	.....	.....	.....	3.92	− 0.79	1.00	0.0	7	.....	.....	.....	.....	W. G. Collins.
Homer	Cortland	.....	2	69.0	.....	93	9	44	5	39	2.25	.....	0.98	0.0	10	21	6	4	nw.	Charles C. Mortimer.
Hoosick Falls	Rensselaer	410	8	.....	.....	.....	.....	.....	.....	.....	2.14	.....	0.54	0.0	10	23	6	2	s.	Sanford L. Cluett.
Indian Lake	Hamilton	1,705	11	66.2	+ 0.9	92	10†	36	18	53	2.90	− 1.17	0.90	0.0	10	15	5	11	w.	Lester Severie.
Jeffersonville	Sullivan	1,240	7	69.0	.....	91	9†	43	5	42	2.86	.....	1.25	0.0	5	22	9	0	w.	Chas. Wilfert, Jr.
Lake Pleasant	Hamilton	.....	3	59.4	.....	85	3	45	17†	28	4.40	.....	1.30	0.0	8	.....	.....	.....	.....	Willet Lawrence.
Liberty	Sullivan	2,300	28	69.5	+ 2.5	89	24	52	4†	30	1.86	− 2.91	0.88	0.0	7	20	7	4	w.	Dr. H. M. King.
Little Falls	Herkimer	924	12	70.6	+ 1.1	91	9†	52	5†	33	2.90	− 1.86	0.50	0.0	10	16	11	4	w.	O. J. Dempster.
Mohonk Lake	Ulster	1,245	14	71.7	+ 1.7	90	10	55	20	25	2.58	− 3.05	1.86	0.0	6	17	6	8	nw.	Albert K. Smiley.
Morehouseville	Hamilton	1,697	2	64.9	.....	87	10†	40	5	45	6.40	.....	1.87	0.0	11	19	1	11	w.	Theodore C. Remonda.
Mount Hope	Westchester	200	13	74.3	+ 1.1	96	8†	49	6	46	0.79	− 4.71	0.55	0.0	3	5	23	3	.....	Wm. A. Cornelius.
Newark Valley	Tioga	825	23	.....	.....	.....	.....	.....	.....	.....	2.28	− 1.92	0.60	0.0	9	26	2	3	.....	M. D. Clinton.
New Berlin	Chenango	.....	3	.....	.....	.....	.....	.....	.....	.....	1.47	.....	0.53	0.0	8	15	8	8	nw.	Roger Greene.
New Lisbon	Otsego	1,234	20	66.1	+ 0.4	91	10†	41	5†	43	1.25	− 3.78	0.43	0.0	8	11	11	9	s.	G. A. Yates.
New York City	New York	314	85	77.8	+ 4.3	94	24	63	6	23	0.23	− 4.31	0.12	0.0	3	11	14	6	sw.	U. S. Weather Bureau.
North Creek	Warren	1,002	2	68.6	.....	91	10	44	17	36	1.99	.....	0.55	0.0	8	17	11	3	.....	W. G. Kenwell.
Northville	Fulton	742	8	.....	.....	.....	.....	.....	.....	.....	2.14	.....	1.11	0.0	6	.....	.....	.....	.....	P. C. Pickard.
Norwich	Chenango	1,015	4	66.9†	.....	92†	24	41†	28†	40†	1.53	.....	0.90	0.0	6	.....	.....	.....	.....	P. L. Clark.
Oneonta	Otsego	1,112	16	70.7	+ 0.5	94	24	41	29	42	1.44	− 3.28	0.54	0.0	5	21	5	5	nw.	H. W. Lee.
Oxford	Chenango	916	45	69.2	+ 0.8	89	10†	49	5†	35	2.30	− 1.86	0.86	0.0	6	15	14	2	w.	John P. Davis.
Port Jervis	Orange	470	26	74.0	+ 3.0	97	24	50	6	39	1.27	− 4.05	0.68	0.0	5	18	10	3	sw.	Prof. John M. Dolph.
Salisbury	Herkimer	1,526	13	67.6	− 0.9	92	10	44	5†	40	3.67	− 1.44	0.93	0.0	9	11	16	4	w.	Joseph Ryan.
Salisbury Mills	Orange	314	11	70.8	.....	95	24	39	30	37	1.53	− 2.67	1.20	0.0	4	25	5	1	w.	H. P. Ramsdell.
Scarsdale	Westchester	200	6	74.2	.....	94	24	54	19	29	1.88	.....	1.33	0.0	3	23	8	0	sw.	C. H. Wilmarth.
Setauket	Suffolk	40	25	73.7	+ 1.7	93	24	54	7	25	0.78	− 3.67	0.46	0.0	3	21	9	1	sw.	Selah B. Strong.
Sherburne	Chenango	.....	3	.....	.....	.....	.....	.....	.....	.....	0.73	.....	0.32	0.0	3	.....	.....	.....	.....	E. B. Collins.
Southampton	Suffolk	36	9	72.0	.....	88	11	50	7	28	2.07	.....	1.09	0.0	4	23	8	0	.....	W. L. Jagger.
Southeast Reservoir	Putnam	310	15	.....	.....	.....	.....	.....	.....	.....	3.24	− 1.60	.....	0.0	.....	.....	.....	.....	.....	Thomas Manning.
Spier Falls	Saratoga	400	9	71.6	.....	96	10	50	18†	37	1.28	.....	0.48	0.0	6	21	6	4	sw.	W. F. Anderson.
Trenton Falls	Oneida	751	7	.....	.....	.....	.....	.....	.....	.....	5.51	.....	1.40	0.0	12	.....	.....	.....	.....	C. W. Young.
Tribesahill	Montgomery	268	7	.....	.....	.....	.....	.....	.....	.....	2.50	.....	0.70	0.0	7	.....	.....	.....	.....	R. S. Marshall.
Utica	Oneida	537	44	.....	.....	.....	.....	.....	.....	.....	3.76	− 0.86	1.00	0.0	10	.....	.....	.....	.....	W. E. Young.
Wading River	Suffolk	112	4	73.2	.....	95	24	45	7	39	0.56	.....	0.36	0.0	3	25	1	5	sw.	H. B. Fullerton.
Wappingers Falls	Dutchess	110	20	72.6	− 0.6	93	10	52	5	32	2.77	− 2.54	1.84	0.0	5	20	10	1	w.	H. C. Townsend.
Warwick	Orange	538	16	.....	.....	.....	.....	.....	.....	.....	0.88	− 3.83	0.65	0.0	5	.....	.....	.....	.....	John W. Sly.
Waverly	Tioga	824	28	73.2	+ 1.9	97	9	44	6†	47	2.65	− 1.23	0.84	0.0	12	11	14	6	sw.	Hon. J. F. Shoemaker.
West Berne	Albany	946	11	69.5	− 0.1	95	10†	43	20	44	2.26	− 1.88	0.67	0.0	8	13	14	4	w.	W. J. Haverly.
West Point	Orange	167	61	75.2	+ 1.2	95	26	53	19	33	1.87	− 2.75	1.80	0.0	2	20	7	4	sw.	Maj. Chas. M. Gandy.
Windham	Greene	1,520	10	67.6	+ 0.2	91	24	44	20	40	1.98	− 1.62	0.60	0.0	8	14	16	1	nw.	A. R. Mott.
Pennsylvania.																				
Altoona	Blair	1,181	22	70.4	− 1.2	94†	24	43†	21	43†	1.59	− 2.04	0.79	0.0	5	.....	.....	.....	.....	C. W. Billin.
Bethlehem	Northampton	260	1	75.9	.....	96	9†	54	6	33	0.45	.....	0.12	0.0	6	21	2	8	w.	Prof. E. C. Roest.
Clearfield	Clearfield	1,107	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Raymond C. Ogden.
Emporium	Cameron	1,050	22	70.5	− 0.2	90	24†	44	19†	39	3.42	− 1.37	0.93	0.0	11	17	10	4	w.	T. B. Lloyd.
Ephrata	Lancaster	384	11	74.1	− 0.5	94	9†	50	6	38	2.13	− 2.50	1.66	0.0	8	20	7	4	w.	W. L. Frantz.
Everett	Bedford	1,080	13	71.7	− 0.2	92	24	46	31	35	1.66	− 2.46	1.01	0.0	4	13	17	1	sw.	B. L. Steckman.
George School	Bucks	184	4	74.7	.....	95	9	47	7	40	0.71	.....	0.25	0.0	5	16	11	4	sw.	Prof. A. C. Smedley.
Gettysburg	Adams	600	36	75.4	+ 1.6	97	9†	52	23	35	1.87	− 1.60	0.60	0.0	6	18	11	2	w.	Col. E. B. Cope.
Gordon	Schuylkill	804	7	70.9	.....	93	24	46	20†	41	1.88	.....	1.13	0.0	5	24	4	3	w.	Capt. J. G. Johnson.
Hamburg	Berks	380	19	73.8	− 0.5	97	10	51	6†	40	2.43	− 2.69	1.23	0.0	5	25	2	4	nw.	W. J. Kalbach.
Harrisburg	Dauphin	361	22	76.5	+ 2.0	93	9	60	20	26	1.41	− 2.20	0.66	0.0	6	15	9	7	w.	U. S. Weather Bureau.
Huntingdon	Huntingdon	650	22	73.6	+ 1.6	93	9†	50	20†	35	2.24	− 1.83	1.23	0.0	7	16	11	4	w.	Prof. W. J. Swigart.
Hyndman	Bedford	977	4	72.8	.....	95	24	46	20	38	1.46	.....	0.40	0.0	6	7	20	4	n.	H. C. Mauk.
Lawrenceville	Tioga	1,006	13	71.5	+ 1.4	96	9	42	19	43	2.30	− 1.77	0.45	0.0	10	18	8	5	.....	C. P. Darling.
Lebanon	Lebanon	458	22	76.2	+ 2.9	95	24†	54	20†	35	2.20	− 2.38	1.55	0.0	6	18	9	4	sw.	G. W. Hayes, C. E.
Lock Haven	Clinton	560	22	75.0	+ 1.7	99	24†	50	19†	40	1.88	− 2.33	0.63	0.0	6	13	16	2	w.	Prof. J. A. Robb.
Marion	Franklin	640	7	76.4	.....	98	24	53	20†	40	1.14	.....	0.58	0.0	4	19	11	1	.....	Hon. C. B. Hege.
Mauch Chunk	Carbon	634	21	72.6	+ 0.1	95	24	48	6	39	2.16	− 2.83	0.98	0.0	8	22	6	3	w.	F. C. Wintermute.
Mifflintown	Juniata	445	7	73.4	.....	95	9	50	20†	38	3.04	.....	0.97	0.0	10	19	6	6	nw.	Wellington Smith.
Milford	Pike	455	8	71.8	.....	96	24†	44	7	46	1.09	.....	0.75	0.0	5	18	13	0	s.	Mrs. Alla Doughty.
Montrose	Susquehanna	1,658	7	70.6	.....	94	24	46	29	38	1.53	.....	0.55	0.0	8	.....	.....	.....	.....	J. R. Beebe.
Muncy Valley	Sullivan	519	1	71.6	.....	91	9†	45	31	35	2.71	.....	0.93	0.0	3	30	0	1	.....	F. W. Buck.
New Germantown	Perry	873	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ed. C. Johnston.
Philadelphia (1)	Philadelphia	117	40	78.2	+ 2.4	93	10	64	20	20	1.84	− 2.49	0.92	0.0	5	8	13	10	sw.	U. S. Weather Bureau.
Pocono Lake	Monroe	1,662	9	68.0	.....	88	9	43	4†	40	1.30	.....	0.76	0.0	3	20	5	6	w.	Pocono Lake Ice Co.
Reading	Berks	280	37	75.8	+ 0.5	93	9†	53	6	32	3.94	− 0.38	2.04	0.0	8	.....	.....	.....	.....	Franklin Yeager.
Scranton	Lackawanna	805	10	72.8	+ 1.0	93	9	53	29	33	1.09	− 2.21	0.51	0.0	7	8	16	7	sw.	U. S. Weather Bureau.
Selinsgrove	Snyder	455	22	74.0	+ 0.3	95	24†	50	20	40	0.66	− 3.75	0.22	0.0	6	0	27	4	se.	J. M. Boyer, C. E.
State College	Center	1,191	22	70.8	+ 0.1	91	24	51	20†	30	4.06	+ 0.14	0.90	0.0	10	.....	.....	.....	sw.	Prof. Wm. Frear.
Towanda	Bradford	754	16	71.1	+ 0.2	91	9†	47	29	38	2.00	− 1.86	0.93	0.0	11	17	9	5	n.	Hiram E. Bull, C. E.
Wellsboro	Tioga	1,327	33	69.6	+ 0.7	93	9	42	29	46	2.41	− 1.24	0.87	0.0	10	14	17	0	sw.	O. L. White.
West Chester	Chester	455	55	76.1	+ 1.9	95	9	58	6	28	2.92	+ 2.00	1.46	0.0	9	20	4	7	sw.	J. C. Green, D. D. S.
Williamsport	Lycoming	530	20	73.8	+ 0.7	92	9†	53	20	31	2.80	− 1.20	1.72	0.0	6	18	8	5	nw.	Henry H. Guise.
New Jersey.																				
Asbury Park	Monmouth	22	22	74.4	+ 1.3	93	25	57	6	26	0.70	− 4.55	0.59	0.0	5	13	10	8	s.	B. H. Obert.
Atlantic City	Atlantic	16	37	74.4	+ 1.9	92	26	57	6	20	1.35	− 2.43	0.87	0.0	6	13	9	9	sw.	U. S. Weather Bureau.
Bayonne	Hudson	50	20	76.8	+ 2.3	97	24	57	7	29	0.29	− 4.84	0.16	0.0	4	11	14	6	se.	J. H. Eadie.

TABLE 1.—*Climatological data for July, 1910. District No. 1*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
New Jersey—Cont'd.																				
Belvidere	Warren	289	19	74.0	+ 1.3	95	10	50	6†	37	2.14	− 3.39	0.84	0.0	6	13	10	8	.....	S. J. Hixson.
Bergen Point	Hudson	37	13	75.8	+ 2.5	96	24	55	6	30	0.27	− 5.24	0.11	0.0	4	9	15	7	sc.	Dr. W. H. Mitchell.
Boonton	Morris	413	20	.....	.....	.....	.....	.....	.....	.....	0.96	− 4.50	0.63	0.0	6	.....	.....	.....	.....	Foster Peer.
Bridgeton	Cumberland	30	29	76.9	− 0.2	97	24	50	6	38	3.04	− 1.39	1.65	0.0	7	13	10	8	w.	H. A. Jorden.
Burlington	Burlington	12	26	.....	.....	.....	.....	.....	.....	.....	2.27	− 2.76	1.56	0.0	5	.....	.....	.....	w.	D. S. B. McCoy.
Canton	Salem	24	16	.....	.....	.....	.....	.....	.....	.....	5.33	+ 0.42	2.64	0.0	7	14	8	9	.....	J. H. Maskell.
Cape May City	Cape May	17	26	74.0	+ 0.6	93	26	57	6	21	1.31	− 2.47	0.39	0.0	11	12	15	4	sw.	U. S. Weather Bureau.
Charlotteburg	Passaic	719	18	71.5	+ 1.4	94	9†	42	7	44	1.03	− 4.43	0.56	0.0	6	13	11	7	nw.	G. S. Briggs.
Chatham	Morris	234	8	.....	.....	.....	.....	.....	.....	.....	0.70	.....	0.48	0.0	4	.....	.....	.....	.....	M. A. Butler.
Clayton	Gloucester	126	17	75.3	− 0.7	93	10†	49	7	38	3.31	− 0.76	1.49	0.0	6	12	10	9	sw.	W. T. Farley.
College Farm	Middlesex	100	15	76.0	+ 2.8	96	9	51	7	35	0.28	− 4.69	0.12	0.0	6	11	14	6	sw.	G. B. Thrasher.
Culver's Lake	Sussex	848	9	.....	.....	.....	.....	.....	.....	.....	1.07	.....	0.77	0.0	5	12	11	8	s.	B. E. Riker.
Dover	Morris	575	26	72.4	+ 1.0	95	9†	47	7	37	1.35	− 4.13	0.47	0.0	7	11	13	7	.....	W. C. Harris.
Elizabeth	Union	33	31	78.2	+ 2.7	98	9†	55[a]	6	33[a]	0.59	− 4.67	0.39	0.0	4	11	14	6	w.	W. M. Oliver.
Flemington	Hunterdon	187	22	75.7	+ 1.8	98	9†	50	6†	39	0.22	− 4.74	0.12	0.0	3	12	12	7	sw.	H. E. Deats.
Haddonfield	Camden	75	16	75.4	− 0.1	93	24	51	6†	37	2.03	− 2.27	0.95	0.0	6	12	11	8	sw.	C. F. Richardson.
Hammonton	Atlantic	80	12	.....	.....	.....	.....	.....	.....	.....	1.55	− 3.14	0.64	0.0	7	.....	.....	.....	.....	Orville Bassett.
Hightstown	Mercer	85	18	76.0	+ 2.0	98	24	48	7	41	0.54	− 5.43	0.33	0.0	4	11	13	7	sw.	Ernst Wenger.
Imlaystown	Monmouth	106	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. F. C. Price.
Indian Mills	Burlington	76	21	75.2	+ 0.1	96	9†	44	7†	43	2.12	− 1.94	1.20	0.0	7	11	13	7	sw.	James Armstrong.
Jersey City	Hudson	15	12	78.3	+ 3.5	97	24	61	6†	27	0.36	− 4.42	0.23	0.0	5	11	15	5	nw.	S. K. Pearson, jr.
Lakewood	Ocean	54	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. R. Major.
Lambertville	Hunterdon	95	24	75.4	+ 0.9	95	9†	51	7	35	0.42	− 4.62	0.29	0.0	4	11	12	8	sw.	W. R. Bowne.
Layton	Sussex	550	11	71.1	+ 0.9	96	24	44	6†	44	1.47	− 2.96	0.57	0.0	4	13	11	7	s.	W. C. Hursh.
Little Falls	Passaic	175	7	.....	.....	.....	.....	.....	.....	.....	1.73	.....	0.85	0.0	6	.....	.....	.....	.....	A. Sweetman.
Long Branch	Monmouth	30	3	74.8	.....	91	25	54	6†	31	1.85	.....	1.40	0.0	4	13	11	7	se.	B. B. Bobbit.
Mahwah	Bergen	312	8	.....	.....	.....	.....	.....	.....	.....	1.35	.....	0.70	0.0	3	.....	.....	.....	.....	C. L. Barker.
Moorestown	Burlington	71	48	75.8	+ 1.0	95	24	52	7	33	1.32	− 3.26	0.60	0.0	4	12	11	8	sw.	J. C. Beans.
Newark	Essex	140	67	76.8	+ 2.5	97	9	55	7	31	0.93	− 3.80	0.75	0.0	3	11	13	7	sc.	Prof. Wm. Wiener.
New Brunswick	Middlesex	61	57	76.0	+ 1.7	99[a]	9	49[a]	7	42[d]	0.31	− 4.74	0.22	0.0	5	11	14	6	w.	W. T. Woerner.
Newton	Sussex	678	31	73.4	+ 1.5	95	24	48	6†	39	1.44	− 3.26	0.74	0.0	5	13	10	8	nw.	B. H. Kienbaum.
Northfield	Atlantic	.....	3	.....	.....	.....	.....	.....	.....	.....	1.83	.....	1.06	0.0	7	.....	.....	.....	.....	W. L. Flick.
Paterson	Passaic	110	39	75.5	+ 1.2	96	24	54	7	31	1.79	− 3.54	1.11	0.0	4	13	12	6	s.	H. A. Probert.
Phillipsburg	Warren	196	13	75.6	+ 1.5	98	24	52	7	37	0.72	− 4.15	0.43	0.0	5	12	11	8	nw.	D. W. Smith
Plainfield	Union	100	24	76.0	+ 2.1	98	24	50	7	37	0.33	− 5.07	0.16	0.0	4	13	12	6	sw.	John Neagle.
Pleasantville	Atlantic	26	12	.....	.....	.....	.....	.....	.....	.....	1.74	− 2.40	1.05	0.0	6	13	9	9	.....	L. Van Gilder.
Pompton Plains	Morris	195	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. S. Taylor.
Rancocas	Burlington	68	47	.....	.....	.....	.....	.....	.....	.....	1.68	− 3.28	0.95	0.0	5	11	13	7	nw.	Spencer Haines.
Rivervale	Bergen	70	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. S. M. Holdrum.
Somerville	Somerset	76	27	76.7	+ 2.5	99	9	49	7	38	0.64	− 4.49	0.43	0.0	4	11	14	6	sw.	P. Hardcastle.
South Orange	Essex	200	40	74.8	+ 1.7	94	10†	53	7	29	0.64	− 4.48	0.42	0.0	5	11	13	7	w.	Dr. W. J. Chandler.
Sussex	Sussex	442	20	73.0	+ 1.3	94	24	49	7	37	0.85	− 3.67	0.43	0.0	7	12	13	6	sw.	Prof. W. H. Seeley.
Trenton	Mercer	60	38	78.8[c]	+ 2.7	98	9†	58[c]	20	32[c]	0.90	− 4.45	0.37	0.0	4	.....	.....	.....	nw.	Paul H. Wendel.
Tuckerton	Ocean	23	17	75.1	+ 0.9	97	23	42	7	42	2.26	− 1.64	1.40	0.0	5	13	11	7	sw.	F. R. Austin.
Vineland	Cumberland	118	41	76.2	− 0.2	97	13	48	7	38	2.76	− 1.92	1.26	0.0	7	11	13	7	sw.	Alfred Chalmers.
Woodbine	Cape May	43	19	75.4[b]	+ 1.4	92[b]	11†	43[b]	7	37[b]	2.31	− 1.71	1.52	0.0	8	.....	.....	.....	.....	Prof. H. A. Dodge.
West Virginia.																				
Bayard	Grant	2,500	8	69.1	.....	90	1	41	20	40	2.80	.....	0.73	0.0	9	15	10	6	w.	Solomon Clark.
Burlington	Mineral	875	15	74.0[d]	+ 0.8	92[d]	24	47[d]	20	35[d]	4.50	+ 0.68	1.60	0.0	8	14[b]	15[b]	0[b]	w.	J. W. Vandiver.
Franklin	Pendleton	.....	3	70.7	.....	94	1†	51	20†	38	7.52	.....	3.10	0.0	.....	16	4	5	.....	A. A. Martin.
Lost City	Hardy	.....	4	71.4	.....	89	8†	48	20	32	2.30	.....	0.60	0.0	9	13	10	8	w.	B. D. Hinegardner.
Martinsburg	Berkeley	435	19	77.2	+ 1.4	98	1†	55	20	34	4.55	+ 0.26	1.70	0.0	7	19	8	4	s.	G. W. Van Metre, C. E.
Moorefield	Hardy	900	14	73.8	0.0	96	1†	46	20	44	0.54	− 3.30	0.29	0.0	2	10	20	0	s.	John C. Fisher.
Romney	Hampshire	824	14	75.6	+ 0.1	97	24	47	20	39	1.47	− 2.37	0.44	0.0	6	19	12	0	w.	John C. Linthicum.
Upper Tract	Pendleton	1,230	12	72.2[b]	− 0.7	93[b]	1	48[b]	20	38[b]	3.08	− 0.83	1.55	0.0	9	5[a]	20[a]	5	w.	J. M. Mallow.
Maryland.																				
Annapolis	Anne Arundel	45	32	77.0	− 1.3	93	23	61	20	22	2.67	− 2.42	1.01	0.0	6	23	5	3	se.	W. M. Abbott.
Bachmans Valley	Carroll	860	17	76.0	+ 1.9	97	10	51	28	40	1.52	− 3.76	1.10	0.0	4	29	1	1	w.	Elmer E. Yingling.
Baltimore	Baltimore	115	40	78.8	+ 1.5	95	10	61	6	23	0.95	− 3.87	0.57	0.0	7	14	12	5	s.	U. S. Weather Bureau.
Cambridge	Dorchester	25	12	79.2	+ 0.3	96	25†	55	6	31	2.58	− 2.70	0.80	0.0	8	17	10	4	sw.	T. E. Keenan.
Cheltenham	Prince George	230	10	76.2	.....	92	26	54	6	26	3.18	.....	0.92	0.0	8	21	8	2	sw.	J. E. Burbank.
Chestertown	Kent	80	25	77.6	+ 1.7	92	24	53	20	28	3.56	− 0.60	1.37	0.0	8	18[a]	11[a]	1[a]	s.	M. W. Thomas.
Chewsville	Washington	530	13	75.0	+ 0.5	96	24	51	20	32	1.29	− 2.57	0.61	0.0	5	15	15	1	nw.	D. Paul Oswald.
Clear Spring	...do	650	13	74.8	+ 1.0	94[a]	24	56	19†	32[a]	1.88	− 2.38	0.98	0.0	5	21	10	0	w.	W. W. Frantz.
Coleman	Kent	80	12	77.5	.....	93	9	55	6	30	1.18	− 3.40	0.33	0.0	6	20	8	3	sw.	J. S. Harris.
College Park	Prince George	170	20	76.4	+ 1.1	96[a]	9	50	a31	41[a]	1.62	− 3.03	0.48	0.0	6	19[a]	7[a]	4[a]	sw.	Prof. H. J. Patterson.
Cumberland	Allegany	700	36	.....	.....	.....	.....	.....	.....	.....	4.22	+ 1.00	1.65	0.0	7	.....	.....	.....	.....	J. W. Frantz.
Darlington	Harford	300	18	74.7	0.0	93	8†	52	2	29	1.36	− 3.41	1.07	0.0	4	20	8	3	sw.	Prof. A. F. Galbreath.
Denton	Caroline	42	15	76.2	− 0.4	96	27	47	6	38	1.82	− 2.26	0.67	0.0	8	21	8	2	s.	H. B. Mason.
Easton	Talbot	35	19	75.7	− 0.6	91	26	50	6	31	2.53	− 1.93	0.61	0.0	11	21	7	3	sw.	Henry Shreve.
Emmitsburg	Frederick	720	37	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jno. H. Eckenrode.
Fallston	Harford	450	40	74.9	+ 0.6	93	9†	56	6†	27	1.45	− 2.94	0.71	0.0	8	3	26	2	sw.	J. H. Curtiss.
Frederick	Frederick	275	33	77.2	+ 1.0	97	25	55	20	31	0.85	− 2.99	0.24	0.0	9	19	10	2	sw.	Henry Trail.
Frostburg	Allegany	1,929	9	73.7	.....	94	1	48	20	34	3.73	.....	1.35	0.0	9	13	14	4	.....	L. B. Abbott.
Great Falls	Montgomery	200	19	76.5	+ 0.6	96	9†	55	20	32	1.75	− 2.43	0.65	0.0	5	15	11	5	se.	J. W. Bissett.
Green Spring Furnace	Washington	450	18	76.2	+ 0.8	97	12	54	20	38	2.61	− 1.29	0.90	0.0	6	25[b]	2[b]	2[b]	w.	E. G. Kinsell.
Keedysville	...do	400	6	76.3	.....	97	24†	52	20	36	1.13	.....	0.35	0.0	9	2	9	1	w.	J. A. Miller.
Lake Montebello	Baltimore	.....	1	.....	.....	.....	.....	.....	.....	.....	0.63	.....	0.21	0.0	7	22	4	5	sw.	Martin L. Dobler.
La Plata	Charles	190	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. R. H. Lee Reich.
Laurel	Prince George	150	16	75.8	− 0.1	95	9	52	6	33	1.15	− 3.69	0.63	0.0	7	13	17	1	.....	Dr. T. M. Baldwin.
Monrovia	Frederick	630	23	76.0	− 0.2	97	9	55	20	30	5.25	+ 0.80	2.19	0.0	10	18	11	2	s.	J. H. Lawson.
Pocomoke City	Worcester	37	17	78.2	+ 0.3	92	11†	57	6	24	5.19	+ 1.40	2.09	0.0	7	16[a]	12[a]	2[a]	sw.	Hon. R. M. Stevenson.
Porto Bello	St. Mary	38	5	77.8	.....	93	16	58	6	28	3.45	.....	1.50	0.0	4	22[a]	6[a]	2[a]	ne.	Alpheus Hyatt.
Princess Anne	Somerset	17	17	75.3	− 0.5	90	13	51	6	27	1.72	− 3.31	0.49	0.0	9	2	23	6	sw.	Jas. R. Stewart.
Rockville	Montgomery	421	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Geo. E. Lewis.
Salisbury	Wicomico	23	5	77.6	.....	95	11†	53	19†	32	3.42	.....	1.20	0.0	10	13	16	2	sw.	W. E. Downing.
Sanatorium	Frederick	1,200	2	73.6	.....	91	9†	45	31	33	1.81	.....	1.06	0.0	8	20	3	8	sc.	Dr. W. M. Garrison.
Solomons	Calvert	20	19	79.0	+ 0.8	94	27	61	6	23	5.67	+ 1.09	2.18	0.0	10	5	13	13	sw.	Dr. W. H. Marsh.
Sudlersville	Queen Anne	65	11	76.8	+ 0.2	94	10†	49	6	40	3.51	− 1.64	1.18	0.0	11	20	7	4	sw.	Jas. E. Higman.
Takoma Park	Montgomery	329	12	74.8	− 0.5	96	27	55	20	36	2.64	− 2.49	1.60	0.0	7	13	15	3	.....	L. M. Moores.
Taneytown	Carroll	450	11	75.2	.....	93	9†	52	6	34	2.24	− 2.40	0.90	0.0	8	27	3	1	sc.	R. A. Nusbaum.
Towson	Baltimore	465	2	76.6	.....	98	25	52	17	34	1.54	.....	0.80	0.0	7	22	4	5	sc.	C. W. E. Treadwell.
Van Bibber	Harford	100	13	75.4	− 0.5	94	1	50	6	34	1.80	− 3.21	0.57	0.0	9	17	12	2	.....	W. Benj. Ford.
Westernport	Allegany	1,000	16	74.5	+ 1.2	97	24	46	20	38	1.28	− 2.75	0.50	0.0	6	.....	.....	.....	.....	Prof. O. H. Bruce.
Woodstock	Baltimore	392	36	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. A. J. Donlon, S. J.
Delaware.																				
Delaware City	New Castle	20	8	76.6	.....	92	10	57	7	25	3.04	.....	1.69	0.0	5	27	2	2	s.	H. Morton Price.

TABLE 1.—*Climatological data for July, 1910. District No. 1*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Delaware—Cont'd.																				
Dover	Kent	40	22	77.9	+ 1.1	96	27	52	6	35	1.96	− 2.90	0.60	0.0	7	20	6	5	sw.	Thos. F. Dunn.
Milford	do	20	26	77.8	+ 1.0	95	10	53	6	31	2.26	− 1.48	1.10	0.0	9	20	7	4	sw.	C. J. Holzmueller.
Millsboro	Sussex	20	18	76.8	+ 0.5	95	27	51	6†	34	3.51	− 1.55	0.92	0.0	11	20	6	5	sw.	Rev. L. W. Wells.
Seaford	do	40	17	75.8	− 0.4	91	26	52	6	31	6.88	+ 1.74	3.30	0.0	11	23	6	2	sw.	E. B. Brown.
District of Columbia.																				
Washington	District of Columbia	112	40	77.6	+ 0.8	95	9	57	6	27	3.73	− 0.92	1.53	0.0	9	19	8	4	w.	U. S. Weather Bureau.
Virginia.																				
Culpeper	Culpeper	450	2	75.5	.....	93	10	55	18	28	7.02	.....	4.08	0.0	9	6	23	2	s.	Col. H. C. Burrows.
Dale Enterprise	Rockingham	1,350	30	72.8	− 1.2	93	1†	49	20	35	6.59	+ 2.18	1.84	0.0	16	9	16	6	s.	Rev. L. J. Heatwole.
Doswell	Hanover	134	9	77.4[d]	.....	96	26	56	20	34	5.49	.....	1.19	0.0	7	10	19	2	s.	Rich., Fdksbg. & Pot. R. R.
Eastville	Northampton	15	...	78.0	.....	93	13	56	6	26	3.83	.....	1.57	0.0	10	17	7	7	sw.	Thos. B. Robertson.
Fredericksburg	Spottsylvania	100	21	76.7	− 0.5	94	26	56	20†	30	5.41	+ 0.75	1.59	0.0	12	16	14	1	sw.	S. G. Howison.
Lincoln	Loudoun	500	9	75.4	.....	102	26†	50	20	44	3.09	.....	0.88	0.0	5	13	14	4	nw.	Dr. Geo. Roberts.
Mount Weather	Loudoun	1,726	6	72.4	+ 1.0	88	1	56	20	22	3.28	− 1.38	0.80	0.0	12	13	11	7	w.	U. S. Weather Bureau.
Quantico	Prince William	16	13	76.4	.....	95	10†	54	6	32	6.61	.....	1.78	0.0	6	.....	.....	.....	nw.	Rich., Fdksbg. & Pot. R. R.
Staunton§§	Augusta	1,380	18	74.2	0.0	91	26	53	19	29	6.59	+ 2.88	1.50	0.0	17	7	15	9	sw.	Ernest Nothnagel.
Stephens City	Frederick	710	18	72.4	− 3.4	97	25	48	20	37	3.15	− 1.03	1.08	0.0	12	14	6	11	sw.	B. T. Argenbright.
Warsaw	Richmond	160	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. H. Constable.
Woodstock	Shenandoah	927	14	75.0	− 0.1	95	21	50	20	35	4.88	+ 1.40	1.82	0.0	11	14	10	7	w.	Miss A. G. Miley.

[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
* Precipitation included in that of the next measurement.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
‡ Separate dates of falls not recorded.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
‖ Estimated by observer.
‖‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for July, 1910. District No. 1, North Atlantic States.*

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Maine.																															
Bar Harbor	Coast			.10	T.			T.	.10					.15			.15			T.			.10	.15					.05		.20		1.00
Cornish	Saco			.06	.02				.10					.01			.27				T.	.20	.27		.04	.03	T.	.08	.24		.32		1.64
Danforth	Penobscot				1.10									1.10		.15							20			.40	.10	.10	.40				3.55
Eastport	Coast			.01	.51				.25					.43		.02	T.	.02					46						.04		.18		1.92
Ellsworth	do				.73	.04			.70						.04		T.	.01					45	.12	T.		T.		.32	.02		.26	2.69
Fairfield	Kennebec							.25			.11			.10		.04						.57	.13		.75			.23		.08			2.26
Farmington	do				.05						.30	.15		.60		.05				.05		T.	.66			T.	.07	.06	.53		.41	.17	3.10
Gardiner	do				.03				.50					T.			.06						43			.01			.16		.64		1.83
Greenville	do			.19	.52			.03	.15		T.			.56		T.		T.	.04	.26	T.	.63	.07		.02	.03	T.	1.00	.50		.18	T.	4.18
Houlton	St. John				1.40										.02							.10	.05			.20	.10		.10		.10	.10	2.17
Lewiston	Androscoggin			.12					.45					T.			.16		T.			.31	.07			T.			.25		1.04		2.40
Madison	Kennebec			.10							.14			.48		.06				.04		.18	.24					2.44	.15		.23		4.01
Millinocket	Penobscot				1.60	.03			.09						.30		T.		.05				.30	.04		.32		.17	.60	.12		.10	3.72
North Bridgeton	Saco			.04	.05				.14								.15			.17		.30	.10		.10	.01	T.		.10		.19		1.35
Orono	Penobscot				.44				.29					.03									.55	.13	T.	.47			.31		.21		2.43
Oquossoc	Androscoggin				.20							.20					.10					.30	.20			.20		.80		1.15		3.15
Patten	Penobscot				1.49				.09					.37		.08							.42	.17		.64	.07	.04	.74	T.	.16		4.27
Portland	Coast								.63								.28	.01				T.	.05			.04			.32		.21		1.64
Presque Isle	St. John				.91				.14					.15		.15	T.	.13	.11				43	.85	1.00	.48	.44	.41	1.08			.10	6.38
Rumford Falls	Androscoggin			.02	.08			T.			.29				.49	T.	T.					.16	.26			.05	.09		.31		.47		2.22
The Forks	Kennebec			*	1.50			.20			.15			.55		.10				.10		.80	.30		.20	.10	.10		.60		.40		5.10
Winslow	do			.15				.32			.06			.17		.05						.93				.72			.15		.35		2.90
New Hampshire.																															
Alstead Center	Connecticut								.26			.01		T.			.15			T.	.07		.20	.03		.20	T.		.38		.04		1.34
Benton	do		.33	.20	.10			.50			.15			.13		.13	.06			.17		.53	.03		.03		.20		.68	.55		T.	2.79
Bethlehem	do			.28	.13				.08		1.44	.43		.67			.10			.02		.28	.13	.06		T.	.18		.53		.64		4.97
Brookline	Merrimac							.40									.58									.25			.35		.15		1.73
Concord	do								.23								.13					.07	.19			.07	T.		.19		.03		0.91
Durham	Coast								.44								.25						.11			.55			.23		.21		1.79
Franklin	Merrimac								.17					T.			.26			.14			.43	.02		.05			.08		.02		1.17
Grafton	do								.22					T.			.25			T.		.21	.27			.07			.06		.66		1.74
Hanover	Connecticut	.08	T.						.04	T.	.15			.01			.30	T.	T.	.04	T.		.54	T.		.03	T.		.15		.10		1.44
Keene	do								.21		T.			T.			.41	T.		.03	T.		.14	.77		.73			.23		.03		2.55
Nashua	Merrimac	T.							.22								.78						T.			.68			.26		.17		2.11
Newton	do								.06		T.			T.			.24									.77	T.		.50		.10		1.67
Plymouth	do			T.					T.					.03			.25			.03	.06	.24	.27				.03		.04		.96		1.91
Vermont.																															
Bloomfield	Connecticut				.75				.34		.21	.46		.36						.01	.01		.36	.26		.12	.02	.05	.92		.30		4.17
Cavendish	do								T.		.45						.30			.16	T.		.52			.11	T.		.28		T.		1.82
Chelsea	do							.05			.25			.14		.08	.20			.05		T.	T.			T.	.10	.12			.75		1.74
Jacksonville	do								.05		.10				.40				.40	.40	.20	.15	.15	.25	.15				.40				2.65
Manchester	Hudson										T.			T.			.29			.14		.88	.21			.64	T.		.52				2.48
St. Johnsbury	Connecticut	T.		.43	.08				.11			.23		.40			.05			T.	.03		.82	.05		.02	.07	T.	.43		.20	T.	2.92
Vernon	do							.02									.38					.35	T.	T.	T.	.53	.52	.20					2.00
Woodstock	do							T.						T.			.65		.09				.30		.04						.18		1.26
Massachusetts.																															
Amherst	Connecticut							.20	.35				.20				.09			.01			.17			.02			.30		.56		1.90
Ashland	Merrimac								.03					.08			.50									.74			.36		.66		2.37
Bakers Bridge	do																	25								.62			.48		.38		1.73
Bedford	do								T.					.03			.24							T.	T.	.56			.40		.42		1.65
Blue Hill	Coast								.12					.47			.44	.33								.58	.04		.33		.10		2.41
Boston	do								.16					.03			.22								T.	.41			.15		.18		1.15
Chestnut Hill	do								.10					.11			.43									.51			.28		.50		1.93
Clinton	Merrimac													.15			.19									.62			.24		.33		1.53
Concord	do													.04			.17	.05							T.	.68	.02		.36		.31		1.63
Fall River	Coast								.12					.30			1.00	.35								.33			.34		.10		2.84
Fitchburg	Merrimac								.08		T.			.08			.43								.04	.44			.29		.55		1.91
Framingham	do								.05					.19			.23									.46			.35		.48		1.76
Haverhill	do								.01					T.			.87	T.								.35	T.		.50		.22		1.95
Hingham	Coast								.41					.40			.79									.52			.12		.04		2.28
Hyannis	do							.05										.92								.16			.50		.24		1.87
Jefferson	Merrimac													.18	.15														.33		.50		1.16
Lake Cochituate	do								.05					.30			.23									.29			.38		.98		2.23
Lawrence	do								T.					T.			.38		.01			T.				1.00			.56		.24		2.19
Leominster	do								T.		T.			.07			.35						.03			.30			.39		.51		1.65
Lowell	do													.04			.30									.81			.43		.35		1.93
Middleboro	Coast				T.				.08					.04			*	.78								1.18			.15		T.		2.23
Monson	Connecticut													.35			.35	.02											1.00		.90		2.62
Nantucket	Coast				T.			.01	.56					T.			.11	.27	T.		.02					T.			.81		2.40		4.18
New Bedford	do								.05					.08			*	1.04							.90			.40					2.47
Norfolk	do								T.					.04			.57						.61						.14		.03		2.29
Northampton	Connecticut								.38					T.			.11			.10						T.			.52		.75		1.86
Plymouth	Coast								.04					.48			.46						.10			.90			.38		.03		2.39
Princeton	Merrimac														.33		.26									.36			.41		.46		1.82
Provincetown	Coast													.22			T.	.48						.10			.35		.54		.12		1.81
Rockport	do																.60									1.30	.30		.60		.30		3.10
Rutland	Connecticut								T.	.20							.15						.10						.45		.70		1.60
Somerset	Coast								.41					.16			1.15						.96						.31		.06		3.05
South Egremont	Housatonic							.05				.13		.06			.22						.05				.46			.06	.84		1.89
Spot Pond	Coast							.04						.07			.20						.44				.32				.40		1.47
Sterling	Merrimac													.29			.18						.42						.29		.41		1.59
Taunton	Coast				T.				.09					.30			*	.65				T.					1.02		.11		T.		2.17
Turners Falls	Connecticut							*	.54					.04			.27			.04		T.	.04			.11			.18		.62		1.84
Westboro	Merrimac								T.					.15			*	.25						T.		.47			.42		.38		1.67
Williamstown	Hudson								.18		.25			T.			.16					.45	.20			.95		.08	.29		.05		2.61
Winchendon	Connecticut								.30					T.			.38	.02		T.						.06			.28		.40		1.64
Worcester	Coast							T.						.08			.34						T.			.48			.62		.61		2.13
Rhode Island.																															
Block Island	Coast								.01								.30	.37											.66		.39		1.73
Bristol	do								.22					.56			*	1.39								*	.72		.62		.12		3.63
Greene	do													.04			*	1.40								.16			.36		.08		2.04
Hope Valley	do										.05			.05				1.68								.48			.62		.44		3.32
Kingston	do								.35					T.			.23	.92								.45			.60		.40		2.95
Narragansett Pier	do				T.				.36					T.			.04	1.04									.11		.84		.33	T.	2.72
Pawtucket	do								.10					.49			.65									.29			.37		.05		1.95
Providence	do								.04					.23			.85	.15								1.13	.02		.39		.05		2.86
Wallum Lake	do																.50									.25		.50		.50		1.75
Connecticut.																															
Bridgeport	Coast													.04			1.42			T.						.04			.60		.90		3.00
Canton	Connecticut																	*	1.81							T.			.68		.14		2.63
Colchester	Coast														T.		.80	.22		T.						T.			.41		.72		2.17
Cream Hill	Housatonic								.02									1.05									.10		.46		.97		2.76
Danielson	Coast													.18												.02			.52		.84		2.21
Falls Village	Housatonic							.03						T.			.80																

TABLE 2.—*Daily precipitation for July, 1910. District No. 1*—Continued.

Stations.	River basins.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Connecticut—Cont'd.																																	
Hartford	Connecticut	T.									T.			.06			1.33	.02		T.						.01		T.	.56		.49		2.47
Hawleyville	Housatonic																.13	2.30											.58		1.45		4.46
Lake Konomoc	Coast																	2.05									20		.87		.10		3.22
New Haven	do								T.		T.			T.			.86	.68						T.		T.			.32		.40		2.26
New London	do													T.			T.	1.62								.01			.73		.74		3.10
North Grosvenordale	do													T.			.55									T.			.15		.21		0.91
Norwalk	do								.06								*	.42		.30				.10							.52		1.40
Southington	do													T.			T.	1.90									T.		.30		.10		2.30
South Manchester	Connecticut													.36			1.42		.02										.28		.45		2.53
Storrs	Coast													.20			1.06											.68			.30		2.24
Voluntown	Coast								.01					T.			T.	1.80								.32			.62		.15		2.90
Wallingford	do												T.				1.98									.01		.84			.46		3.29
Waterbury	Housatonic													.10			*	1.57		.21						T.	T.		.37		.79		3.04
West Simsbury	Connecticut													T.			1.12			.05						.03			.31		.88		2.39
New York.																																	
Addison	Susquehanna							.12			.41		.48	.25			.32	.03							.03				.11		.15		1.90
Albany	Hudson							.01			T.			T.			.03			T.		.05	.07		.02	.29		.43	.17		.21		1.28
Alfred	Susquehanna							.45			.03		1.42	1.15			.52	.03						.22				.10			.24		4.16
Amsterdam	Mohawk																.60	T.		T.		.25	.53			.55		.35			.06		2.34
Athens	Hudson				T.			.12			.02			T.			.06			.07		.14	.02		T.	T.			1.22		.14		1.79
Ballston Lake	do								.16		T.			.04			.31			.05		.07	.25	.05		.74			.27		.03		1.97
Bedford	Coast																.01	.86						.02		.02			.15		.42		1.48
Binghamton	Susquehanna							.01			.64		.06	.05			.25			.05		.62			.04	.01		.27			.08		2.08
Bouckville	do							.19					.05	.15			.30			.25			.06			.52		.60	.06		.22		2.40
Carmel	Hudson																	2.26						.05							.15		2.46
Chatham	do								.21			.05		.17			.05	.01		.01			.07			.10		.09	.88		.56		2.20
Cooperstown	Susquehanna													.10			.31					.10				.35		1.12			.06		2.04
Corinth	Hudson																.25						.25			.25		.60					1.35
Cortland	Susquehanna							.07	.03					.84			.34	.10						.07		.18			.49		.13		2.27
Cutchogue	Coast																	.22		T.									.69		1.01		1.92
De Ruyter	Susquehanna							.18			T.	.21	.10	.45			.29	T.		T.					T.	.27	T.		1.28		.19		2.97
Easton	Hudson								.03				.02			T.						1.47				.30		1.27					3.09
Elmira	Susquehanna							.18			.07		.75				.13												.18	.02			1.33
Fort Hunter	Mohawk																																
Fort Plain	do							T.			T.						.04			T.		.34	.01			.42		T.		.82	.04		1.67
Glens Falls	Hudson							.02			.10			.02			.32			.20		.10	.28			.13			.63		.13		1.93
Gloversville	Mohawk								.06		.08			.08			.44					.42	.27			.56	T.	T.	.47	.76	.08		3.22
Greenfield Center	Hudson																.36			.03		.10	.15			.05		.30			.02		1.01
Greenwich	do							.01		T.				T			.20			T.		.40	.11			.50			.34		.02		1.58
Griffin Corners	Delaware										.15					..	.31	.15			.72					.22		.68			.14		2.37
Hankinville	Susquehanna							.34					.75	1.00			.83							.15	*	.40					.45		3.92
Homer	do							.16			T.		.05	.93			.29	.01					16			.15	T.	.04	.33		.13		2.25
Hoosick Falls	Hudson								.18	T1					.02			.23		.04		.02	.54	.12		.11	.48		.40		T.		2.14
Indian Lake	do				.10			.05	.05		.40			.10			.90						.20			.20			.50		.40		2.90
Jeffersonville	Delaware							T.			1.25		T.				1.07		T.	T.		.22	T.		T.	.20					.12		2.86
Lake Pleasant	Hudson							.40			.80						.70						.50			.20	.20	1.30			.30		4.40
Liberty	Delaware							.07			.50						.88		T.	T.		.22	.05			.04			.10		T.		1.86
Little Falls	Mohawk							.26		.42	.16		T.	.20			.50			T.		T.	.25			.50	T.	.26	.30		.05		2.90
Mohonk Lake	Hudson										.35						*	1.86		.05		.03				.05					.24		2.58
Morehouseville	Mohawk							.66			1.47			.11			.50			.10		.02	.70			.20	.32		1.87		.50		6.40
Mount Hope	Coast			T.							.12		T.				.12												T.		.55		0.79
Newark Valley	Susquehanna							.09			.46		.05	.13			.60			T.		.40				.05		.44			.06		2.28
New Berlin	do																																
New Lisbon	do							.03			.01						.22					.22	.03			.26			.43		.05		1.25
New York City	Coast												T.	T.			.03	.09	T.	T.									T.		.11		0.23
North Creek	Hudson													.22			.55			.07			30				.08		.48		.15	.14	1.99
Northville	do							.20			.10						.25						29		.19			1.11					2.14
Norwich	Susquehanna								.10					.14									.90	.17		.15					.07		1.53
Oneonta	do										.08						.17					.25	T.	.40				.54				1.44
Oxford	do							.20					T.	.06			.48					.58	T.			.12		T.	.86		T.		2.30
Port Jervis	Delaware							.02			.02						.68							.08							.47		1.27
Salisbury	Mohawk							.81			.03			.18			.60			.08			.43			.03			.50		.11		3.67
Salisbury Mills	Hudson								.03		T.								1.20					.05							.25		1.53
Scarsdale	Coast								.20		T.							T.	.35	T.										1.33		1.88
Setauket	do								.12					T.			T.	.20		T.				T.							.46		0.78
Sherburne	Susquehanna																																
Southampton	Coast								.33					T.				.15											.50		1.09		2.07
Spier Falls	Hudson							T.			T.						.20					.05	.26			.15			.48		.08		1.28
Trenton Falls	Mohawk								.88			.45		.28				.60			.29		.67	.16		.27	T.	.19	1.40		.32		5.51
Tribeshill	do								.10								.40					.10	.70			.50			.50		.20		2.50
Utica	do									.18		1.00						.82					.40	.24		.41	.15	.18	.10			.28	3.76
Wading River	Coast																	.19		.01											.36		0.56
Wappingers Falls	Hudson										T.						.32	1.52		.14					T	.14					.65		2.77
Warwick	do				.05						T.							.65		.03									.03		.12		0.88
Waverly	Susquehanna										.84	.02		.18			.22	.02		T.		.37	.12	.04	T.	.02		.62	.18		.02		2.65
West Berne	Mohawk																.23						.13	.40		.59	.13	.67	.08		.03		2.26
West Point	Hudson																1.80							T.					.07	T.	T.	T.	1.87
Windham	Mohawk			T.							.12						.20			.20			.23	.14		.37			.60		.12		1.98
Pennsylvania.																																	
Altoona	Susquehanna		.26					.38				.79	T.					.15										T.	.01				1.59
Ansonia	do								.32			.05		.27				.43					.04	.05		.04			.16		.07		1.43
Austin	do							.58					.07	.48			.03	.95					.06	.37		.80			.14		.30		3.78
Bellefonte	do							1.37			.31		1.40				.53							.40		.03		1.08			.08		5.20
Bethlehem	Lehigh								.02		.03			T.				.11		.12				.10					T.		.07		0.45
Browers Lock	Schuylkill																.21	.41	.10	.27	.06							.08			.11		1.24
Catawissa	Susquehanna		T.					.03			.09		.05	.01			.91	.19		T.								.22					1.50
Center Hall	do							.63		.01		.08	.71				.10	.23	.05					.28				T.	.45		.05		4.09
Clearfield	do																																
Coatesville	Coast										1.07			.02			1.49	.17										.04	.03		.14		2.96
Doylestown	Schuylkill																T.	.10													.06		0.16
Drifton	Susquehanna							.40	.30		.05						.20	.35	.06									.09	.02				1.47
Emporium	do				.03			.93			T.	.10	.12	.42			.04	.46					T.	.10		.06		.67			.40		3.42
Ephrata	do							.01	.01		.04		.02				.91	.75						.20					T.		.19		2.13
Everett	Juniata				T.			.48			.04		.13					1.01													T.		1.66
Forks of Neshaminy	Delaware																	.29		.07										.06	.11		0.53
George School	do								.10									.25			.20								.01		.15		0.71
Gettysburg	Potomac			.03				T.				.42	.60	T.			T.	.48		T.								.02			.32		1.87
Girardville	Susquehanna		T.					.07			T.	T.					1.15	.25	T.					.09				.25	.09		.06		1.96
Gordon	do								.11		.16							1.13	.02										.46				1.88
Hamburg	Schuylkill							.41									1.23							.14			.57			.08		2.41
Hanover	Susquehanna		T.								.07		.17				.05	.30										.07			.24		0.90
Harrisburg	do		T.					.05			.27		T.				.22	.14	T.					T.				T.	.66		.07		1.46
Huntingdon	Juniata			T.				1.23			.26		.07				T.	.15	.14					.37				T.	.02		T.		2.20
Hyndman	Potomac		T.	T.				.07		.14	.32		.24					.40								T.		T.			.29		1.46

TABLE 2.—*Daily precipitation for July, 1910. District No. 1*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Pennsylvania—Cont'd.																																	
Kennett Square	Coast							T.			.61		.12				2.75	.53		.10							.18			.15		4.44
Lancaster	Susquehanna										.55		.06					.80										.13	.05	.18		1.77
Lansdale	Schuylkill																	.48												.11		0.59
Lawrenceville	Susquehanna							.30	.30		.45	.05	.45				.35	.05				.05				T.			.10	.20		2.30
Lebanon	...do				T.				.21		T.	.33	T.	.09	.01			1.55	T.									.01				2.20
Le Roy	...do			.01				.02			.02		.08	.73				.30		T.			.01	.07		.02		.01		.06		1.33
Lewisburg	...do			T.				.32										.40						.25				.10		.14		1.21
Lloyd	...do																															
Lock Haven	...do			T.				.31					.44					.63								.13		T.	.11	.26		1.88
Marion	Potomac							.12					.17					.58												.27		1.14
Mauch Chunk	Delaware							.10	.45		.08						.06	.37							.06			.08		.66		2.16
Mifflintown	Juniata				.06			.14			.10			.10			.93	.97							.18			.12	.39	.05		3.04
Milford	Delaware								.04			.02					.01	.75		T.										.27		1.09
Montrose	Susquehanna							.05						.18			.09	.07		T.		.55				.10			.43	.06		1.53
Mountain House	Juniata							.46						.10				.90										.09		.16		1.71
Muncy Valley	Susquehanna							.93					.48				1.30							T.	T.	T.			T.			2.71
New Germantown	...do																															
Ottsville	Delaware																	.19		.34										.09		0.62
Philadelphia (1)	...do							.28					.05				.42	.17												.92		1.84
Pocono Lake	...do										.76		T.					.40	T.										T.	.14		1.30
Point Pleasant	...do																															
Pottsville	Schuylkill																															
Reading	...do							.09			2.04		.03				.97	.58		.11									.01	.11		3.94
Renova‖	Susquehanna								.20			.18		2.00				1.12						T.					.22	.46		4.18
Scranton	...do							.06			.32						.16	.35		.05				.08						.07		1.09
Seisholtzville	Schuylkill										.01						.21	.22												.11		0.55
Selinsgrove	Susquehanna			T.					.07		.02			.05			.10	.20											.22	T.		0.66
Shawmont	Schuylkill							.05									.30	.35												.10		0.80
Shippensburg	Susquehanna																															
Smiths Corners	Schuylkill																	.27		.14												0.41
Spring Mount	...do																.37	.41	.02	.05										.09		0.74
State College	Susquehanna			T.	T.			.90		.31	.08		.81	.35			.08	.53	T.					.15				T.	.83	.02		4.06
Towanda	...do			T.				.02		T.	.02		.13	.25			.32	.11				.08	.01	.93	T.	T.			.08	.05		2.00
Wellsboro	...do							.15			.04			.87			.03	.46					.20			.03		.54	.06	.03		2.41
West Chester	Coast										.50		.34				1.46	.30		.03	.03							.10	.02	.14		2.92
Wilkes-Barre‖	Susquehanna								.40			.13			.05			.83			T.									.18		1.59
Williamsport	...do				T.			.24					.48				1.72							.19				.09		.08		2.80
New Jersey.																																
Asbury Park	Coast			T.				.01			.05							.05												.59		0.70
Atlantic City	...do			T.				.04			.02		.15				.06	.81	T.									T.		.27		1.35
Bayonne	...do			T.							T.			T.			T.	.16	T.	T.				T.		T.		T.	.04	.09		0.29
Belvidere	Delaware							.19			.61							.84		.44										.06		2.14
Bergen Point	Coast			T.								T.		T.				.11						T.		T.			.05	.11		0.27
Boonton‖	Passaic			.06							.05							.63											.08	.14		0.96
Bridgeton	Coast			T.				.22			.44		.08				1.50	.15	.10											.55		3.04
Burlington‖	Delaware							.30			T.	T.					.28	.09	T.	.04										1.56		2.27
Canton	Coast			.05				1.30			.08		.75	T.				2.64												.51		5.33
Cape May City	Coast			.05	.18			.01	.01		.02		.12	T.	T.		.31	.20	.01	T.						.01				.39		1.31
Charlotteburg	Passaic							.10			.05							.56						.22						.10		1.03
Chatham‖	...do				T.							T.						.48			.10									.12		0.70
Clayton	Coast							1.33				T.	.26					1.49	.08											.15		3.31
College Farm	...do										.01							.08	.01					.06						.12		0.28
Culvers Lake	Delaware							.13					T.					.77											.02	.15		1.07
Dover	Passaic							.12			.05							.47		.03									.38	.30		1.35
Elizabeth	Coast																	.12		.08										.39		0.59
Flemington	...do																	.10		T.				T.						.12		0.22
Haddonfield	Delaware			.01				.66			T.		.02	T.				.39	T.									T.		.95		2.03
Hammonton	Coast			.02				.36			.02		.23					.64	T.											.28		1.55
Hightstown	Delaware							.03									.08	.10												.33		0.54
Imlaystown	...do																															
Indian Mills	Coast			.02				.32					.13					.41	.04											1.20		2.12
Jersey City	...do			T.							T.		T.	T.			.05	.18		.01						T.		T.	.01	.11		0.36
Lakewood	...do																															
Lambertville	Delaware																	.29		.05										.08		0.42
Layton	...do							.45										.57												.45		1.47
Little Falls	Passaic			T.							.85						.04	.52		.25									.02	.05		1.73
Long Branch	Coast							.41			.03							.01												1.40		1.85
Mahwah‖	Passaic										.70							.65														1.35
Moorestown	Delaware			T.				.35			T.		T.	T.				.37	T.							T.				.60		1.32
Newark	Passaic			T.								T.		T.			.10	.65		T.						T.		T.		.18		0.93
New Brunswick	Coast																	.02	.02					.22						.05		0.31
Newton	Delaware							.33			.25							.74												.12		1.44
Northfield	Coast							.06			.03		.31					1.06	.01											.36		1.83
Paterson	Passaic			T.							1.11						T.	.56		.05				T.				T.		.07		1.79
Phillipsburg	Delaware							.07			.43						.04	.11												.07		0.72
Plainfield	Coast				T.			T.			T.			T.			.08	.04		T.				.05		T.		T.		.16		0.33
Pleasantville	...do							.06					.34					1.05	.02											.27		1.74
Pompton Plains‖	Passaic																															
Rancocas	Delaware			T.				.35			T.		T.				.05	.32	.01	T.								T.		.95		1.68
Rivervale	Coast																															
Somerville	...do										T.			T.				.11		T.				.43						.10		0.64
South Orange	...do										.08							.42		.04						T.				.10		0.64
Sussex	Hudson			.02				.05			.02		T.					.43											.05	.28		0.85
Trenton	Delaware							.25										.37	T.											.28		0.90
Tuckerton	Coast							.41					.02					.43	T.											1.40		2.26
Vineland	...do			.05				.09			.02		.14					1.20	T.											1.26		2.76
Woodbine	...do			.01				.04			.02		.52					1.52	.04											.16		2.31
West Virginia.																																
Bayard	Potomac			.30	.15		.03	.16	.10		.30	T.		.48				.55		T.						T.		T.	T.	.73		2.80
Burlington	...do			.75	.20							.45	1.60	.40				.25	.45									T.		.40		4.50
Franklin	...do			3.10	T.			*		2.77					*	.20	*	.75				.70										7.52
Harpers Ferry‖	...do					.52			.30			.24																.11		.10		1.27
Lost City	...do			.59	.60		.06	.46					.12	.03				.14	.08									.22		T.		2.30
Martinsburg	...do			.22				.90		1.70			.05					.22						T.			1.25		.21		4.55
Moorefield	...do			.29	T.		T.		T.			T.	T.	T.	T.			.25										T.	T.	T.		0.54
Romney‖	...do			T.	.11				.10			T.		.44	.11					.30								T.	.41			1.47
Upper Tract	...do			.05	T.	.42	T.	.16				.07	1.55	.18	T.			.40						.10			T.	T.		.15		3.08
Maryland.																																
Annapolis	Coast							.30	.10					1.01					.90		.06									.30		2.67
Bachmans Valley	...do												.09					1.10		.03								T.		.30		1.52
Baltimore	...do			.04				T.			.57		.05					.07	.09	.01								T.		.12		0.95
Cambridge	...do			*	.69			.21	.05				.80		.14			.47	.16									.06				2.58
Cheltenham	...do				.80	.03			.38				.35	.52				.17	.92											.01		3.18
Chestertown	...do						T.		.10	T.		.60	.05	.61			.40	1.37	.23											.20		3.56

TABLE 2.—*Daily precipitation for July, 1910. District No. 1*—Continued.

Stations.	River basins.	Day of month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Maryland—Cont'd.																																	
Chewsville	Potomac			T.				T.			.02		.03				T.	.36	T.									.61			.27		1.29
Clear Spring	do			T.				T.	.98			T.		.08	T.			T.	.28	T.									.26	.28		1.88
Coleman	do			T.				T.			.30		.29				.05	.33	.03	.18								T.			T.		1.18
College Park	do		.19										.48	.17						.42									.25		.11		1.62
Cumberland	do			T.	1.65			T.	.10		1.26	.27	.40						.04												.50		4.22
Darlington	Coast				T.				.06								T.	1.07	.02								T.				.21		1.36
Denton	do			T.	.18			.03	.06			.05	.67					.31	.08												T.	.44	1.82
Easton	do			.05	.20			.15	.51			.61		.56	.04			.16	.15	.03											.07		2.53
Emmitsburg	Potomac																																
Fallston	Coast			T.	T.			.01			T.	T.	.34	.05			T.	.71	.06									.03	.03		.22		1.45
Frederick	Potomac			.11	.02			T.	.01			.06	.21					.13	.04									.03			.24		0.85
Frostburg	do			.50				.15	.17		1.35	.08	.02	.95														.01			.50		3.73
Great Falls	do				.35									.50					.18										.65			.07	1.75
Green Spring Furnace	do				.03			.90					.58					.20									.42			.48		2.61
Keedysville	do			.01	.14			.13			T.		.02	T.				.29	.02	.12								.05			.35		1.13
Lake Montebello	Coast			T.				.06			.07	T.	.07				T.	.21	.08	T.								.01			.13		0.63
La Plata	do																																
Laurel	do			.02	.10								.63	.05					.20									.10			.05		1.15
Monrovia	Potomac			T.	.13			T.	.02		.18	1.64	2.19	.02				.10	.14									.61			.22		5.25
Pocomoke City	Coast				*	1.47		.26				.11			.58			2.09	.60								.08						5.19
Porto Bello	do			.30				.90										T.	.75								1.50				T.		3.45
Princess Anne	do				.41			.23					.05	T.				.49	.34	.02							.05				.05	.08	1.72
Rockville	Potomac																																
Salisbury	Coast			.10	1.11	.30		.30	.09				.02	.08				1.20	.17	.04							T.						3.42
Sanatorium	Potomac				T.			T.				.04	.01	.04			.10	1.06		.08								.32			.16		1.81
Solomons	Coast			.04	.90			1.80	.08				T.	.35	.04		T.	2.18	.22								.04				.02		5.67
Sudlersville	do			T.	T.			.26	.03		.32		.08	.39			.06	1.18	.18	.31								.03			.67		3.51
Takoma Park‖	do				.15	.04								1.60	T.			.03	.22	.20									.40				2.64
Taneytown	Potomac							.01				.08	.59				.01	.90	.03								.25			.37		2.24
Towson	Coast			.01	T.				T.				.23				.05	.80	.08	T.							.02			.35		1.54
Van Bibber	do							.57			.25		.13	.02			.36	.25	.06								.01			.15		1.80
Westernport	Potomac			.38				.05						.28			.04	.03									T.			.50		1.28
Woodstock	Coast																																
Delaware.																																	
Delaware City	Coast				T.			T.	.64			.06	T.	.24				1.69	T.										T.		.41		3.04
Dover	do			.10				.20			.13		.48					.21	.60								T.			.24		1.96
Milford	do				.11			.24	.05			.25	1.10	.07	T.		T.	.12	.04											T.	.28	2.26
Millsboro	do			.08	.38	.16		.28					.92				.32	.57	.09								.01	.05			.65		3.51
Seaford	do			.04	1.96	.04		.14					3.30	.18			.20	.38	.02									.11			.51		6.88
District of Columbia.																																	
Washington	Coast			.25	.81			.03				T.	1.53	.01			T.	.03	.56									.45			.06		3.73
Virginia.																																	
Culpeper	Rappahannock			4.08	.23						.83	.02	.43	.11			.02		1.25												.05		7.02
Dale Enterprise	Shenandoah			.40	.23		.01	1.83	1.20	.05	.03	.14	.52	.20	.15	T.	.37	.26	.65									.53			.02		6.59
Doswell	Pamunkey				1.06	.11		.26		.38					.38			11	1.19														3.49
Eastville	Coast				.20	.07		.65	.13	.01			1.57	.17				.10	.43	T.							T.	.50						3.83
Fredericksburg	Rappahannock			.07	1.17	.02		.48	.03			.02	.36	.31	.83			.99	.96									T.			.17		5.41
Lincoln	Potomac			.64				.88					.50						.32									.75					3.09
Mount Weather	do			.22	T.			.65	.03		.11	.80	.49	.02			.02	.01	.25									.56			.12		3.28
Quantico	do			1.78	1.42			.50						.68			.65		1.58														6.61
Staunton	Shenandoah			.02	1.01		.40	.47		1.48	.07	.09	.02	.05	.17	.38	.12	*	1.50	T.				.01				.08	T.		.02		6.59
Stephens City	Potomac			.06	.35			.13	.27	.27		.02	1.08	.11			.03	.01	.10									.73					3.15
Warsaw	Rappahannock																																
Woodstock	Shenandoah			.13	.83			1.82	.15		.18	1.20	.08				.26		.12									.02			.09		4.88

TABLE 3.—*Maximum and minimum temperatures at selected stations, July, 1910. District No. 1, North Atlantic States.*

Date.	Maine.												Concord, N. H.		Massachusetts.								Providence, R. I.		Connecticut.			
	Eastport.		Greenville.		Orono.		Portland.		Presque Isle.		Rumford Falls.				Amherst.		Boston.		Middleboro.		Nantucket.				Cream Hill.		Hartford.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	70	53	80	45	83	46	81	63	82	53	84	59	84	58	82	58	85	68	79	52	78	62	81	61	83	62	83	62
2...	68	51	80	52	87	52	87	62	78	50	85	60	87	62	90	62	90	69	89	58	82	62	89	66	84	66	88	66
3...	66	53	69	50	86	49	72	59	83	59	76	58	80	62	86	64	78	66	86	60	82	63	84	68	85	65	89	66
4...	57	50	65	53	73	55	74	60	70	54	70	56	74	56	80	53	78	65	80	65	73	64	82	62	73	64	78	63
5...	75	50	77	44	83	45	85	56	86	56	82	52	84	49	84	48	86	61	83	44	76	58	83	57	79	60	84	56
6...	82	57	80	55	86	52	83	60	84	52	88	54	89	53	89	54	84	64	86	51	79	58	85	61	82	56	88	62
7...	69	55	82	51	85	53	75	60	85	59	86	58	87	57	85	54	86	60	83	48	77	62	83	55	78	59	83	58
8...	71	52	77	60	81	61	79	62	85	60	82	66	86	63	89	64	87	70	88	63	78	64	89	67	87	62	90	68
9...	76	52	85	57	87	59	84	62	85	60	90	60	92	60	92	62	83	72	90	62	79	64	92	68	90	69	93	68
10...	61	50	92	62	91	60	86	64	96	73	95	63	96	64	94	66	93	75	88	62	76	64	90	69	90	69	93	72
11...	86	54	81	67	91	65	91	68	85	69	84	63	90	62	88	64	94	75	90	72	82	67	91	73	88	66	88	70
12...	77	53	81	57	90	56	80	63	85	48	85	56	86	55	87	56	87	69	86	52	80	61	84	65	85	64	86	59
13...	63	52	77	60	85	57	87	63	93	69	80	64	87	64	85	66	87	68	87	61	78	62	88	66	84	62	87	67
14...	78	55	80	55	85	54	82	61	86	51	84	60	88	54	88	56	82	68	85	52	77	61	83	63	78	64	87	63
15...	65	53	75	58	85	54	84	59	76	58	82	58	86	54	88	56	90	66	86	56	80	61	87	64	88	59	89	63
16...	65	52	70	50	85	57	71	58	74	52	73	54	68	59	78	59	78	62	85	58	77	63	85	61	85	60	86	62
17...	66	49	63	48	77	49	72	54	70	46	69	50	76	52	83	59	76	63	76	60	69	58	81	61	75	52	80	61
18...	66	52	69	48	74	43	67	55	73	43	72	50	72	48	74	56	69	61	72	54	70	58	71	59	76	54	75	59
19...	63	54	72	47	74	50	67	56	76	43	72	52	75	53	76	52	69	60	70	53	68	63	71	56	78	52	74	55
20...	65	54	73	48	79	48	70	55	84	43	76	56	79	52	83	51	71	58	75	56	68	58	76	55	78	55	81	55
21...	63	54	78	47	83	48	77	57	80	48	82	55	85	53	87	60	85	64	79	50	70	58	81	62	80	52	81	61
22...	62	55	70	59	79	59	70	62	75	60	82	60	76	61	80	62	80	66	77	60	72	61	77	63	78	54	78	64
23...	70	54	76	54	83	60	86	61	79	53	80	60	85	59	86	60	88	69	86	65	82	66	87	68	87	58	88	67
24...	73	56	75	57	84	58	75	63	80	48	80	58	94	58	97	61	93	71	90	62	78	66	92	67	92	65	93	70
25...	64	53	84	59	89	61	90	63	78	61	88	64	88	68	92	70	93	74	87	70	77	68	89	70	89	64	92	74
26...	81	56	74	59	87	65	82	67	81	60	80	58	80	65	82	64	85	72	84	67	81	65	84	70	78	64	83	70
27...	75	57	80	57	88	62	83	64	83	56	86	62	86	61	88	62	88	68	85	58	83	65	85	66	83	65	85	68
28...	69	55	70	56	87	61	75	62	73	57	77	60	82	63	85	62	79	66	82	63	73	65	78	63	85	62	84	62
29...	71	53	77	47	81	51	80	61	87	48	81	52	84	54	86	56	79	67	83	61	74	62	83	65	83	58	85	63
30...	58	52	70	51	82	60	73	60	73	50	70	58	78	58	78	60	77	66	75	62	72	64	74	65	80	56	78	60
31...	74	55	66	54	74	55	76	57	67	55	72	56	77	55	79	56	80	62	80	52	76	64	79	59	78	55	78	59
Mns	69.4	53.3	75.7	53.8	83.4	55.0	78.8	60.5	80.1	54.6	80.4	57.8	83.3	57.8	85.2	59.1	83.2	66.6	83.0	58.4	76.4	62.5	83.4	63.7	82.5	60.5	84.7	63.6

Date.	New Haven, Conn.		New York.												Pennsylvania.												Asbury Park, N. J.	
			Addison.		Albany.		Binghamton.		Cooperstown.		Indian Lake.		New York.		Everett.		Harrisburg.		Philadelphia.		Scranton.		State College.		Wellsboro.			
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	81	65	95	58	84	64	88	59	84	62	85	48	86	71	90	59	91	69	90	73	89	61	89	64	92	56	86	67
2...	88	67	91	59	87	67	84	64	82	61	85	52	88	74	81	60	85	72	89	76	86	69	88	67	91	57	87	73
3...	84	69	87	61	88	67	86	63	87	60	90	55	86	74	83	61	82	68	83	73	85	64	78	65	85	59	85	69
4...	80	63	78	60	79	60	74	60	80	54	87	53	84	73	80	65	78	68	83	71	75	61	76	65	78	60	84	70
5...	81	58	87	46	86	55	82	49	78	50	86	48	83	68	80	51	81	62	81	65	85	53	79	52	86	43	75	64
6...	84	58	90	47	88	59	84	51	84	55	90	37	85	63	80	52	84	63	85	66	87	54	82	57	87	44	80	57
7...	78	56	77	59	81	62	78	60	75	68	86	42	80	65	83	67	82	67	82	65	80	56	76	57	76	60	75	59
8...	89	69	90	60	89	66	84	65	80	57	89	62	90	71	86	64	89	71	92	74	86	68	86	64	89	59	82	67
9...	92	69	97	56	93	64	91	58	88	65	90	52	91	73	90	58	93	67	92	75	93	62	86	60	93	52	87	69
10...	88	70	98	63	96	72	89	66	90	67	92	51	92	75	90	61	92	73	93	77	92	67	87	62	90	61	79	68
11...	90	72	89	63	88	69	83	64	78	52	81	65	89	73	84	70	89	72	91	75	85	66	86	60	88	64	90	66
12...	83	65	91	54	88	59	85	56	82	57	85	42	86	72	88	63	84	70	81	72	85	60	84	61	87	52	91	70
13...	90	70	83	66	85	69	79	60	75	50	81	64	88	73	81	66	88	71	90	73	84	65	82	66	81	61	90	70
14...	83	64	87	52	87	60	82	52	79	55	80	43	86	69	82	54	87	62	88	71	85	55	83	53	86	49	88	70
15...	88	65	90	55	89	60	85	53	82	60	82	46	90	67	83	57	89	66	88	71	87	55	84	60	89	51	79	64
16...	89	62	83	55	73	62	73	56	66	56	80	54	91	71	88	64	87	67	88	71	85	60	85	62	81	53	89	70
17...	76	61	78	54	79	58	73	56	72	57	75	43	81	64	84	58	77	64	73	64	77	62	74	60	76	55	86	65
18...	71	61	76	50	79	59	72	57	70	53	76	36	73	67	73	62	76	65	72	66	75	61	74	55	75	48	70	67
19...	74	58	80	46	79	60	76	53	70	50	80	43	78	66	75	52	81	63	75	65	78	58	75	51	78	45	72	62
20...	76	57	85	46	83	55	82	53	76	55	77	46	79	64	80	47	81	60	79	64	82	54	81	51	83	43	73	59
21...	80	62	84	45	85	64	83	62	82	60	80	41	82	65	83	52	83	64	80	64	83	62	72	59	84	53	73	63
22...	77	65	90	51	80	66	83	65	76	57	72	56	82	64	85	53	88	64	83	64	86	62	84	60	83	55	74	62
23...	85	68	92	59	86	63	86	62	82	60	82	49	89	71	90	64	92	71	91	72	88	67	85	67	88	61	75	61
24...	92	70	98	63	95	64	89	67	90	65	92	50	94	74	92	61	93	73	92	75	93	66	91	63	91	60	90	70
25...	92	73	95	76	92	72	87	70	78	61	85	62	91	78	88	69	92	76	91	77	90	75	87	63	87	69	93	67
26...	82	72	87	59	80	69	78	63	70	58	75	60	86	77	85	65	87	74	90	79	80	64	80	62	85	56	90	78
27...	86	67	95	54	87	66	84	56	80	61	82	48	88	72	82	57	86	67	88	74	87	58	83	58	86	52	84	67
28...	85	66	83	58	82	64	75	58	74	50	84	51	86	73	83	67	84	64	88	72	79	64	79	61	81	56	83	70
29...	83	64	91	45	84	59	84	47	78	60	80	44	88	68	86	53	87	61	88	68	85	53	84	54	88	42	79	64
30...	76	65	89	55	82	64	76	62	75	57	77	57	85	69	85	65	88	69	88	71	83	65	80	64	83	63	83	68
31...	80	60	81	50	80	62	70	54	70	48	71	53	80	65	81	46	80	63	83	67	76	59	75	53	78	48	78	63
Mns	83.3	64.9	87.6	55.6	85.0	63.2	81.5	58.7	78.5	57.5	82.4	50.1	85.7	70.0	83.9	59.5	85.7	67.3	85.7	70.6	84.2	61.5	81.8	59.9	84.7	54.4	82.3	66.4

TABLE 3.—*Maximum and minimum temperatures at selected stations, July, 1910. District No. 1*—Continued.

Date.	New Jersey.								Maryland.								Virginia.							
	Atlantic City.		Hightstown.		Newton.		Phillipsburg.		Martinsburg, W. Va.‡‡		Baltimore.		Darlington.		Frederick.		Westernport.		Millsboro, Del.		Washington, D. C.		Culpeper.		Fredericksburg.		Staunton.‡‡	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	85	68	84	62	86	62	86	62	86	62	86	68	84	68	86	62	84	62	86	68	86	68	86	68	86	68	86	68
2	82	68	82	62	84	62	84	62	84	62	84	68	84	68	84	62	84	62	84	68	84	68	84	68	84	68	84	68
3	84	68	84	62	86	62	86	62	86	62	86	68	86	68	86	62	86	62	86	68	86	68	86	68	86	68	86	68
4	86	68	86	62	88	62	88	62	88	62	88	68	88	68	88	62	88	62	88	68	88	68	88	68	88	68	88	68
5	86	68	86	62	88	62	88	62	88	62	88	68	88	68	88	62	88	62	88	68	88	68	88	68	88	68	88	68
6	86	68	86	62	88	62	88	62	88	62	88	68	88	68	88	62	88	62	88	68	88	68	88	68	88	68	88	68
7	86	68	86	62	88	62	88	62	88	62	88	68	88	68	88	62	88	62	88	68	88	68	88	68	88	68	88	68
8	86	68	86	62	88	62	88	62	88	62	88	68	88	68	88	62	88	62	88	68	88	68	88	68	88	68	88	68
9	86	68	86	62	88	62	88	62	88	62	88	68	88	68	88	62	88	62	88	68	88	68	88	68	88	68	88	68
10	86	68	86	62	88	62	88	62	88	62	88	68	88	68	88	62	88	62	88	68	88	68	88	68	88	68	88	68
11	86	68	86	62	88	62	88	62	88	62	88	68	88	68	88	62	88	62	88	68	88	68	88	68	88	68	88	68
12	86	68	86	62	88	62	88	62	88	62	88	68	88	68	88	62	88	62	88	68	88	68	88	68	88	68	88	68
13	86	68	86	62	88	62	88	62	88	62	88	68	88	68	88	62	88	62	88	68	88	68	88	68	88	68	88	68
14	86	68	86	62	88	62	88	62	88	62	88	68	88	68	88	62	88	62	88	68	88	68	88	68	88	68	88	68
15	86	68	86	62	88	62	88	62	88	62	88	68	88	68	88	62	88	62	88	68	88	68	88	68	88	68	88	68
16	86	68	86	62	88	62	88	62	88	62	88	68	88	68	88	62	88	62	88	68	88	68	88	68	88	68	88	68
17	86	68	86	62	88	62	88	62	88	62	88	68	88	68	88	62	88	62	88	68	88	68	88	68	88	68	88	68
18	86	68	86	62	88	62	88	62	88	62	88	68	88	68	88	62	88	62	88	68	88	68	88	68	88	68	88	68
19	86	68	86	62	88	62	88	62	88	62	88	68	88	68	88	62	88	62	88	68	88	68	88	68	88	68	88	68
20	86	68	86	62	88	62	88	62	88	62	88	68	88	68	88	62	88	62	88	68	88	68	88	68	88	68	88	68
21	86	68	86	62	88	62	88	62	88	62	88	68	88	68	88	62	88	62	88	68	88	68	88	68	88	68	88	68
22	86	68	86	62	88	62	88	62	88	62	88	68	88	68	88	62	88	62	88	68	88	68	88	68	88	68	88	68
23	86	68	86	62	88	62	88	62	88	62	88	68	88	68	88	62	88	62	88	68	88	68	88	68	88	68	88	68
24	86	68	86	62	88	62	88	62	88	62	88	68	88	68	88	62	88	62	88	68	88	68	88	68	88	68	88	68
25	86	68	86	62	88	62	88	62	88	62	88	68	88	68	88	62	88	62	88	68	88	68	88	68	88	68	88	68
26	86	68	86	62	88	62	88	62	88	62	88	68	88	68	88	62	88	62	88	68	88	68	88	68	88	68	88	68
27	86	68	86	62	88	62	88	62	88	62	88	68	88	68	88	62	88	62	88	68	88	68	88	68	88	68	88	68
28	86	68	86	62	88	62	88	62	88	62	88	68	88	68	88	62	88	62	88	68	88	68	88	68	88	68	88	68
29	86	68	86	62	88	62	88	62	88	62	88	68	88	68	88	62	88	62	88	68	88	68	88	68	88	68	88	68
30	86	68	86	62	88	62	88	62	88	62	88	68	88	68	88	62	88	62	88	68	88	68	88	68	88	68	88	68
31	86	68	86	62	88	62	88	62	88	62	88	68	88	68	88	62	88	62	88	68	88	68	88	68	88	68	88	68
Mns	80.9	67.8	80.5	62.5	87.2	59.5	86.9	62.4	80.7	64.7	87.3	70.5	85.9	63.5	88.7	66.0	87.4	61.6	87.5	66.0	87.3	68.0	85.5	65.5	87.3	66.1	85.0	63.5

Climatological Data for July, 1910.

DISTRICT No. 2, SOUTH ATLANTIC AND EAST GULF STATES.

CHARLES F. VON HERRMANN, District Editor.

GENERAL SUMMARY.

Nearly normal conditions as to temperature and rainfall prevailed during July in the northern portion of the district, except that the rainfall was deficient in North Carolina, but in the States bordering the Gulf the month was very cloudy, cool, and wet. The deficiency in temperature and excess in rainfall were greatest in Alabama and Mississippi. The relatively short period of intense insolation and the frequency of cooling thunderstorms prevented any long periods of high temperature and the midsummer month, which usually presents a culmination of summer heat, was in this instance a decidedly agreeable one. In the northern portion of the district the month was the most favorable of the season for agricultural interests, but in the south too much rain prevented the proper cultivation of crops.

The district came under the influence of very few well-defined barometric depressions during the month, while on the other hand the atmospheric pressure was normal or above during several long periods, as from the 5th to 9th, 12th to 15th, and from the 19th to nearly the close of the month. The maximum pressure for the month was registered on the 24th at nearly all stations, and the minimum on the 17th. The highest barometer observed was 30.25 inches at Columbia, S. C., and Savannah, Ga., and the lowest was 29.68 inches at Norfolk, Va., and at Raleigh, N. C., giving the very small range of only 0.57 inch.

Local showers or thunderstorms continued throughout the periods when the pressure was high; in fact in all States except Virginia and North Carolina showers occurred on every day of the month. In general the rainfall was fairly well distributed, only 5 stations reporting a monthly total of less than 2 inches, and 19 above 10 inches. Comparatively few severe local storms occurred during the month.

TEMPERATURE.

The temperature during July was slightly below normal over nearly all parts of the district, except in the southern and western portions of the North Carolina area and at a few stations in Florida where there was a very slight excess. The greatest deficiencies amounting to over 2° occurred in central-northern Georgia and the adjoining portions of Alabama. The State averages for Florida, Georgia, Alabama, and Mississippi show a uniform negative departure of slightly over 1°, a statement not in itself very impressive, but in fact at many places the month was as cool as, or cooler than, any previous July on record. At Montgomery, Ala., for instance, during a period of 38 years only July, 1882, and July, 1892, were as cool as the current month; at Mobile previous months of July have been slightly cooler than the present month only four times in 40 years. Similar statements might be made for several places in South Carolina, Georgia, and Mississippi.

The highest temperatures for the month occurred generally on the 11th to 16th or on the 29th to 31st. In every State the maximum temperatures were well within the limits of previous years and, except in Virginia where the maximum temperature was 90° or above at some places for consecutive periods of from 7 to 15 days, there were no very long hot spells and the nights were cool and pleasant. Near the Gulf coast the most oppressive days occurred at the close of the month. Only one station in Florida and two each in Georgia, Alabama, and South Carolina reported maximum temperatures of 100° or over. On the other hand a period of decidedly cool weather prevailed from the 18th to the 22d with marked departures below the daily normals and minimum temperatures in every State below 60°. The lowest temperatures ranged from 60° in Florida to 48° in Virginia.

The mean temperature for the entire district determined from the records at all stations was 79°. The highest monthly means at individual stations varied from 79.6° at Newport News, Va., to 84.2° at Statesboro, Ga., and Jasper, Fla., and the lowest monthly means from 69.3° at Hot Springs, Va., to 78.4° at Booneville, Miss. Monthly mean temperatures exceeding 80° occurred at only 3 stations in Alabama, at 4 in North Carolina, at 9 in South Carolina, at 15 in Georgia, and at 32 in Florida. The highest temperature for the district was 104° on the 15th at Blakely, Ga., and the lowest was 48° on the 18th at Hot Springs, Va. At the latter station the minimum was below 60° on 18 dates. On the whole it is seen that the temperature conditions during the month were far from oppressive and not unpropitious for the growth of crops.

PRECIPITATION.

Brief periods of fair weather prevailed in Virginia at the beginning of the month and during the last decade, but in all other States of the district rains occurred at some point on every day of the month. The month, however, was not so wet as the preceding June nor were there such large monthly totals as occurred in July, 1909. The rainfall was distributed with considerable uniformity and the average for the entire area was 6.09 inches or 0.50 inch above the normal, while for June it was 7.80 inches or 2.50 inches above normal. The State average rainfall was below 5 inches in North Carolina with a negative departure of 1.64 inch, but in the other States the averages ranged from 5.28 inches in Virginia to 7.56 inches in Florida and were above normal in all sections. However, the departures were small in Virginia, South Carolina, Georgia, and Florida, while the excess was more marked in Alabama (+2.36 inches) and in Mississippi (+1.49 inch).

The areas in which the monthly precipitation exceeded 10 inches were all small. The regions of maximum rainfall are found in central and extreme western Florida, and in southern and central-southern Alabama; while in North Carolina, Georgia, and Mississippi only one station in each State received more than 10 inches. The regions of least precipitation lie in the central portions of the Mississippi area, in central Georgia, and in southern Virginia and the adjoining portions of North Carolina, in which the monthly totals ranged from 2 to 4 inches. The distribution of rainfall in eastern North Carolina was peculiar; Hatteras, on the east side of Pamlico Sound on a sand bar projecting into the Atlantic Ocean, received but 1.44 inch while Belhaven on the west side of the sound received 11.11 inches.

The largest monthly rainfall for the district was 15.62 inches at Fernandino, Fla., closely followed by 14.79 inches at Live Oak. The monthly totals exceeded 10 inches at 19 stations and 8 inches at 67 stations out of 343 reporting. The only places that received less than 2 inches during the month were Clarksville and Randolph, Va., Hatteras and Morganton, N. C., and Edinburg, Miss. Excessive precipitation was not especially frequent during the month; amounts exceeding 2.50 inches in 24 hours fell at only two stations in North Carolina with largest amount, 3.58 inches, at Belhaven on the 14th; at two stations in South Carolina, largest amount, 2.74 inches, at Camden on the 18–19th; at five places in Georgia, largest amount, 8.50 inches, at Valona on the 19th; at eight places in Florida, with the greatest fall, 5.30 inches, at Live Oak on the 28th; at nine points in Alabama, maximum 5.32 inches at Mobile on the 6–7th, and at five places in Mississippi, maximum 4.00 inches at Biloxi on the 1st.

Heavy local rains within short periods of time were reported as follows: Raleigh, N. C., 1.00 inch in 38 minutes on the 7th,

and 1.48 inch in 24 minutes on the 13th; Columbia, S. C., 1.64 inch in 54 minutes on the 13th and 1.00 inch in 28 minutes on the 18th; Live Oak, Fla., 5.30 inches in 3 hours from 3 to 6 a. m. on the 28th; Montgomery, Ala., 3.97 inches in 1 hour and 56 minutes on the 24th (of that amount 2.99 inches occurred in 1 hour); and Pearlington, Miss., 1.25 inch in 1 hour on the 9th.

The average number of days with rain for the district was 14 which is much above the normal number. Thunderstorms were extremely frequent during the month, but were generally moderate and were accompanied by hail in but few cases.

RIVER CONDITIONS.

The course of the rivers in the district during July was generally uneventful, though moderate floods occurred in Alabama. The rivers of Virginia, North Carolina, and South Carolina experienced no important changes during the month; the stream flow was moderate, seldom rising above the normal flow and then for short periods only. At some stations the mean river stages were slightly below the normal, at others slightly above.

The Ocmulgee and Oconee rivers in Georgia experienced a marked rise early in the month, for which warnings were issued by the official in charge at Macon. The Ocmulgee rose 13 feet at Macon and the Oconee to 17.8 feet at Milledgeville, but flood stages were not attained at any point.

The following report on river conditions in Alabama was made by Mr. Patrick H. Smyth, Section Director, Montgomery, Ala.:

The rise in progress in the Tallapoosa, lower Coosa, and upper Alabama rivers at the close of June continued into the month of July and was augmented by moderately heavy rains that occurred during the first few days of the month. The flood stage was reached at Milstead, Ala., on the Tallapoosa, at 4 p. m., July 2, and the maximum stage was reached the same afternoon. The flood stage, however, was not reached at any other river station. Special forecasts were issued from the local office of the United States Weather Bureau, at Montgomery, on the 4th and again on the 5th for points on the lower Coosa and upper Alabama. The stages predicted were: At Wetumpka, 32 feet; at Montgomery, 30 feet, and at Selma, 31.5 to 32 feet. The maximum stages attained were: At Wetumpka 31.7 feet; at Montgomery, 29.7 feet; and at Selma, 31.6 feet. The forecasts were of great value. Farmers had ample time in which to protect their live stock and save their property. Considerable damage was done to crops on lowlands along the lower Tallapoosa, Coosa, and upper Alabama. With the passage of the crest the freshet receded quite rapidly.

MISCELLANEOUS PHENOMENA.

The average number of clear days in the district ranged from 9 in Mississippi, Florida, and South Carolina to 14 in Virginia; the number of cloudy days was greatest in Georgia and Alabama (10) and averaged about 7 in most of the other States. The prevailing winds were southwest, except in Florida where southeast winds predominated. Charlotte, N. C., reported a maximum wind velocity of 46 miles from the northwest on the 28th, Savannah, Ga., 45 miles west on the 6th, and Pensacola, Fla., 42 miles south on the 2d. The mean wind movement exceeded 10 miles an hour at Pensacola, Savannah, Charleston, and Hatteras. Severe local storms occurred as follows:

Charlotte, N. C.—A severe storm occurred in the afternoon of July 28; the wind for a minute reached an extreme velocity of 72 miles an hour. Some trees were uprooted and the dome of the Court House was blown off. Traffic was delayed, window blinds wrenched off, and some windows were blown in. A barn belonging to the Southern Industrial Institution near Hoskins Mills was struck by lightning and destroyed.

Washington, N. C., was visited by a severe electrical storm on July 18, during which lightning struck several houses in the city and barns in the neighborhood. The rainfall was heavy and several bridges were washed away.

Goldsboro, N. C.—During a thunderstorm on the 4th lightning struck and nearly destroyed the steeple of the First Baptist Church; the Union Passenger Station was also struck and several people in it at the time were slightly dazed.

Angier, N. C.—During a thunderstorm on the 12th, lightning struck a pine tree about 100 yards from the home of Mr. John Hockaday, then ran along a wire fence to the house and killed a boy about 15 years of age who was sitting at the foot of a bed.

TABLE 1—*Climatological data for July, 1910. District No. 2, South Atlantic and east Gulf States.*

Stations.	Counties.	Elevation feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Virginia.																				
Arvonia	Buckingham	350	6	76.8	− 0.2	93	3†	55	30	29	7.38	+ 3.73	1.74	0.0	13	10	20	1	sw.	Rev. P. F. Jones.
Ashland‡	Hanover	221	19	76.6	− 0.9	91	12†	56	21	26	5.53	+ 0.37	1.53	0.0	8	4	22	5	s.	E. L. C. Scott.
Buchanan‡‡	Botetourt	820	6								4.21		1.04	0.0	9					D. D. Booze.
Callaville	Brunswick	250	16	77.0	− 0.4	93	3†	56	21	27	4.24	− 1.39	1.95	0.0	7	17	12	2	w.	F. M. Gage.
Cape Henry	Princess Anne	20	36	78.6	+ 1.1	94	26	66	5	25	5.08	− 0.77	1.63	0.0	8	13	10	8	sw.	U. S. Weather Bureau.
Charlottsville	Albemarle	800	21	76.5	+ 0.3	94	3	53	18	28	7.95	+ 2.28	1.47	0.0	11	17	8	6	sw.	Leander McCormick.
Clarksville‡‡	Mecklenburg		16								1.93	− 2.85	0.74	0.0	7					J. Henry Ligon.
Columbia	Fluvanna	246	12	75.8		90	2†	57	20	27	5.79		1.60	0.0	10	16	5	10	nw.	Chesapeake & Ohio R. R.
Danville‡‡	Pittsylvania	413	10								3.55	− 0.26	2.44	0.0	10					C. G. Watkins.
Diamond Springs	Princess Anne	20		78.4		95	13	58	6†	31	4.67		1.51	0.0	11	17	2	12		Virginia Experiment Sta.
Hampton	Elizabeth City	5	27	77.6	− 1.6	93	4†	62	6	18	3.90	− 1.34	1.25	0.0	10	12	13	6	se.	Hampton Institute.
Hot Springs	Bath	2,195	18	69.3	− 0.3	85	2†	48	19	25	7.58	+ 3.93	1.90	0.0	15	10	19	2		James P. Scott.
Ivor	Southampton	87	1	78.1		94	11†	56	20†	32	6.47		1.80	0.0	11					N. & W. Ry., Exp. Farm.
Lassiter	Goochland	100									5.80		2.15	0.0	6	25	4	2		T. J. Davis.
Lexington	Rockbridge	1,060	33	72.2	− 2.6	94	1	52	19	33	3.27	− 0.72	0.98	0.0	14					Virginia Military Institute.
Lynchburg	Campbell	685	39	77.1	− 0.2	94	9	58	18	30	4.19	+ 0.11	1.30	0.0	12	6	21	4	sw.	U. S. Weather Bureau.
New Castle‡‡	Craig	1,300	1								7.65		1.52	0.0	19					Miss J. L. Martin.
Newport News	Warwick	55	7	79.6		93	13†	62	6†	20	7.00		1.80	0.0	13	16	12	3	sw.	Ernest W. Sniffen.
Norfolk	Norfolk	91	40	78.4	− 0.3	93	11	64	21	22	6.16	+ 0.28	2.32	0.0	8	12	11	8	sw.	U. S. Weather Bureau.
Petersburg	Dinwiddie	60	23																	Central State Hospital.
Randolph‡‡	Charlotte	334	6								1.94		1.00	0.0	5					W. B. Spencer.
Richmond	Henrico	144	31	77.8	− 1.4	92	12	58	21	25	6.40	+ 1.98	2.41	0.0	9	7	15	9	sw.	U. S. Weather Bureau.
Rocky Mount	Franklin	1,150	16	75.0	− 1.2	92	1	52	2	30	4.85	− 0.55	0.95	0.0	10				sw.	G. W. B. Hale.
Saxe	Charlotte	350	7	78.0		94	29	55	20	32	2.79		0.77	0.0	6	24	5	2	s.	State Experiment Farm.
Spottsville (near)	Surrey	15	22	77.7	0.0	93	11†	55	21	28	7.35	+ 1.12	2.04	0.0	6	11	8	12	sw.	B. W. Jones.
Williamsburg	James City	70	19	78.6	+ 1.8	94	11†	56	21	24	6.40	+ 0.94	2.30	0.0	8	24	6	1	sw.	Eastern State Hospital.
North Carolina.																				
Beaufort	Carteret	10	8	79.2		87	5†	68	19†	16	5.30		2.21	0.0	12	23	5	3	sw.	H. D. Aller.
Belhaven	Beaufort	4	1	80.8		96	7	62	6	26	11.11		3.58	0.0	12	16	6	9	sw.	W. S. Hopkins.
Brewers	Wilkes	1,950	13																	W. L. Brewer.
Caroleen	Rutherford	806	10	79.0	+ 0.7	94	26†	63	22	28	3.19	− 1.50	1.00	0.0	13	8	23	0	sw.	S. B. Tanner.
Chalybeate Springs	Harnett	300	4	78.0		94	1†	59	20	29	7.37		1.25	0.0	15	18	10	3	sw.	J. A. Smith.
Chapel Hill	Orange	500	52																	Prof. A. H. Patterson.
Charlotte	Mecklenburg	773	34	77.6	− 1.1	93	11	60	20	24	3.12	− 2.37	0.81	0.0	13	5	8	18	sw.	U. S. Weather Bureau.
Chimney Rock	Rutherford	1,150		73.8		92	29	50*	21	35	3.57		1.05	0.0	15	15	12	4	w.	J. M. Flack.
Clinton	Sampson	156	3	79.4		95	23	60	20	28	7.88		2.25	0.0	11	3	25	3	s.	W. T. Boyette.
Durham (near)	Durham	406	1								2.20		0.57	0.0	7					Supt. Durham Water Co.
Eagletown	Northampton	66	5	78.8		93	2†	59	20	22	3.85		0.81	0.0	10	14	16	1	sw.	J. T. Elliott.
Edenton	Chowan	30	16	77.6*	− 2.0	96*	3	59*	6	24*	5.59	− 1.53	1.40	0.0	8	14	9	8	s.	E. R. Conger.
Enfield (near)	Halifax	99									3.19		1.20	0.0	6					T. S. Inborden.
Fayetteville	Cumberland	170	23	79.2	+ 0.1	95	29	60	20	25	4.47	− 2.71	0.57	0.0	15					Frank Glover.
Goldsboro	Wayne	102	40	80.4	+ 0.6	98	3†	58	20	33	5.67	− 0.84	1.20	0.0	15				s.	Mrs. N. B. Taylor.
Graham	Alamance	656	8								4.50		2.00	0.0	14					Dr. W. R. Goley.
Greensboro	Guilford	843	29	78.8	+ 0.7	97	1	58	20†	31	3.58	− 1.53	1.00	0.0	10				sw.	A. R. Horry.
Greenville	Pitt	75	17								5.11	− 1.71	1.26	0.0	15					R. M. Hearne.
Hatteras	Dare	11	36	78.2	− 0.4	86	12	66	19	15	1.44	− 4.69	0.53	0.0	10	14	13	4	sw.	U. S. Weather Bureau.
Henderson	Vance	508	17	78.0	− 0.1	91	12†	57	20	22	3.38	− 2.41	1.50	0.0	9	7	22	2	w.	Enoch Powell.
Kinston	Lenoir	46	12	79.9	− 0.9	94	11†	62	20	25	7.69	+ 1.00	2.31	0.0	14	12	13	6	s.	H. C. V. Peebles.
Lenoir	Caldwell	1,186	37	77.5	+ 2.0	95	25†	53	20	32	3.18	− 1.77	1.40	0.0	16	25	5	1	w.	G. M. Goforth.
Lexington	Davidson	810	9	76.6		96	13	51	20	35	3.19		0.95	0.0	7	16	11	4	s.	H. R. Berrier.
Lincolnton	Lincoln	994	5	76.8		92	13	56*	20	27*	3.29		0.86	0.0	8	17	11	3	sw.	S. P. Houser.
Louisburg	Franklin	375	19	79.0	+ 0.9	93	11†	58	20	23	2.42	− 2.95	0.60	0.0	8	13	15	3	s.	T. B. Wilder.
Lumberton	Robeson	102	27	79.6	− 0.7	96	29	61	20	27	3.91	− 2.03	0.77	0.0	16				s.	B. M. Davis.
Manteo	Dare	12	5	79.1		92	3†	64	6	19	7.68		2.72	0.0	10	13	11	7	sw.	U. S. Weather Bureau.
Marion	McDowell	1,425	18	75.8	+ 0.2	97	29	53	20	32	6.10	+ 0.70	1.59	0.0	20	6	23	2	w.	Sgt. Thomas McGuire.
Moncure	Chatham	145	16	78.9	+ 0.1	96	11†	60	19†	27	4.70	− 0.24	1.67	0.0	14	13	6	12	sw.	B. J. Utley.
Monroe	Union	586	16	77.9	− 0.1	93	16	58	23	30	4.86	− 0.37	1.55	0.0	11	15	11	5	sw.	T. A. Ashcraft.
Morganton	Burke	1,135	23	76.6	+ 0.6	92	16†	53	20	28	1.93	− 3.21	0.54	0.0	13	27	4	0	sw.	H. D. Judd.
Mt. Airy	Surry	1,048	22	75.6	+ 0.4	91	15†	54	20†	31	6.09	+ 0.31	1.97	0.0	17	17	6	8	se.	Prof. A. H. Merritt.
Mt. Holly	Gaston	616	13								3.48	− 2.88	0.76	0.0	14					J. W. Holland.
Nashville	Nash	190	6	78.8		94	13†	59	20	26	5.43		2.20	0.0	12	10	11	10	s.	J. B. Boddie.
Newbern	Craven	12	28	78.4	− 0.6	94	7	60	20	26	4.59	− 3.05	1.07	0.0	13				sw.	J. B. Hill.
Pinehurst§	Moore	650	6	78.8		94	13	59	20†	24	3.42		1.18	0.0	10	20	6	5	w.	General Office.
Pittsboro	Chatham	480	19	79.6	+ 2.2	96	1	60	20	28				0.0		22	0	9		B. M. Poe.
Raleigh	Wake	390	39	78.3	− 0.2	94	28	60	20	24	5.65	− 0.46	2.53	0.0	12	8	12	11	sw.	U. S. Weather Bureau.
Ramseur	Randolph	442	3	78.9		99	11	55	20	36	5.79		1.05	0.0	17	0	31	0	w.	A. H. York.
Randleman	....do	810	5								5.89		2.12	0.0	12					J. R. Walton.
Reidsville	Rockingham	828	11	78.2	+ 2.0	96	11	58	20	31	4.56	− 0.68	1.20	0.0	13	16	7	8	sw.	E. M. Redd.
Rock House	Macon	3,100	18	69.4	− 2.1	82	26	53	20	21	8.47	+ 0.10	1.69	0.0	20	8	17	6	sw.	B. C. Hawkins.
Rockingham	Richmond	210	15	79.6	− 0.5	94	2†	60	20	26	4.41	− 2.15	1.15	0.0	9					H. S. Ledbetter.
Rocky Mount	Nash	105																		W. H. Calcutt.
Roxboro	Person	600	12	79.2	+ 1.7	95	11†	58	20†	34	2.89	− 2.69	0.95	0.0	11	13	2	16	w.	N. Lunsford.
Salem	Forsythe	1,000	15	77.2	− 0.4	93	26	57	20	30	3.11	− 2.50	1.18	0.0	6					Rev. H. E. Rondthaler.
Salisbury	Rowan	760	26	79.7	+ 0.7	97	11	57	20	34	2.91	− 1.96	0.70	0.0	10	8	11	12	nw.	Miss Thelma Wilkinson.
Saxon	Stokes	900	18	77.3	+ 0.8	94	27	57	21	31	3.94	− 0.37	1.65	0.0	14	7	15	9	sw.	R. P. McAnnaly.
Scotland Neck	Halifax	80	6	76.8		91	3†	58	20†	24	4.57		1.86	0.0	9	9	10	12	s.	J. Y. Savage.
Selma	Johnston	225	20	79.0	− 0.7	95	30	58	20	24										Dr. R. J. Noble.
Settle	Iredell	700	14	77.0	− 0.3	93	11†	55	20	30	3.74	− 2.15	1.72	0.0	11	13	10	8	sw.	C. H. Smith.
Sloan	Duplin	50	17	79.2	+ 0.4	94*	29	62*	20	24*	3.06	− 4.45	1.01	0.0	8	18	5	8	s.	D. M. Sholar.
Snow Hill	Greene	80	5	79.4		95	29	61	20	25	7.20		1.25	0.0	14	4	17	10	s.	L. J. H. Mewborn.
Southern Pines	Moore	519	20																	Mrs. P. H. Beck.
Southport	Brunswick	18	55	78.7	− 1.7	88	31	65	20	16	5.20	− 1.61	1.29	0.0	16	15	11	5	sw.	Mrs. C. E. Taylor.
Statesville	Iredell	950	22	78.1	+ 1.2	95	1†	57	20	33	4.83	+ 0.02	1.80	0.0	12	8	10	13	sw.	D. M. Thompson.
Tarboro	Edgecombe	50	25	80.4	+ 0.5	95	2†	60	20	26	5.76	− 0.59	1.30	0.0	11	12*	10*	6*	sw.	E. V. Zoeller.
Troy	Montgomery	800	1																	Mrs. O. B. Deaton.
Weldon	Halifax	81	38	80.4	+ 1.0	98	11	59	20	29	2.95	− 2.45	0.65	0.0	12				s.	H. S. S. Cooper.
Whiteville	Columbus	59	5																	Rev. C. C. Smith.
Willard	Pender	51	2	79.9		94	28†	62	20	25	5.71		1.32	0.0	12	17	9	5	s.	J. H. Jefferies.
Wilmington	New Hanover	52	39	79.0	+ 0.3	92	16	63	20	20	6.99	+ 0.02	2.31	0.0	17	5	18	8	sw.	U. S. Weather Bureau.
Yanceyville	Caswell	690									3.05		0.80	0.0	7	20	0	11	sw.	A. Y. Kerr.
South Carolina.																				
Aiken	Aiken	565	26	80.0	− 1.2	97	10	62	20	20	5.63	+ 0.52	1.67	0.0	6	17	5	9	w.	Dr. Huger T. Hall.
Allendale	Barnwell	186	22	82.8	+ 1.6	102	29	63	21	29	4.98	− 0.59	1.50	0.0	9	10	15	6		A. R. Hiers.
Anderson	Anderson	764	9	77.6	− 1.3	95	28	58	20	27	5.22	+ 0.33	1.77	0.0	16	14	0	17	w.	H. H. Russell.
Batesburg	Lexington	656	22	78.2	− 1.7	95	31	60	20	23	6.01	+ 0.69	2.49	0.0	16	14	5	12	n.	E. J. Hite.
Beaufort	Beaufort	20	24																	Miss E. G. Rice.
Blackville	Barnwell	296	22	80.2	− 1.5	97	28	61	20	27	7.59	+ 2.26	1.78	0.0	20	8	17	6	sw.	Miss M. E. Lange.

TABLE 1.—*Climatological data for July, 1910. District No. 2*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
South Carolina—Cont'd.																				
Blairs	Fairfield	293	6								4.14		1.42	0.0	10	9	14	8	s.	John R. Ragsdale.
Bowman	Orangeburg	100	9	79.4		96	29	61	21	26	9.20		1.76	0.0	15	18	8	5	w.	B. O. Evans.
Calhoun Falls	Abbeville	508	17								5.55	+ 1.10	1.30	0.0	4	23	0	8	sw.	M. L. Crisp.
Camden	Kershaw	222	44								9.98	+ 4.98	2.74	0.0	12	16	8	7	sw.	W. C. Brown.
Catawba	York	562	5								5.13		1.48	0.0	13	13	12	6	sw.	Jas. C. Faris.
Chappells	Newberry	402	5								6.36		1.30	0.0	12	12	0	19	sw.	W. R. Zimmerman.
Charleston	Charleston	48	40	80.8	− 0.5	92	28	66	20	18	4.68	− 2.58	1.80	0.0	13	9	15	7	sw.	U. S. Weather Bureau.
Cheraw	Chesterfield	144	22	79.6	− 0.3	95	31	60	21	27	3.83	− 2.17	0.98	0.0	15	11	13	7	sw.	J. H. Powe.
Clemson College	Oconee	850	19	76.9	− 1.9	89	28	59	23	21	4.14	− 1.19	0.80	0.0	11	20	7	4	s.	Prof. John N. Hook.
Columbia	Richland	351	23	79.1	− 1.0	94	10	60	21	22	5.25	− 0.81	1.69	0.0	15	1	18	12	sw.	U. S. Weather Bureau.
Conway	Horry	25	18	80.0	+ 0.2	95	7	60	23	28	8.55	+ 1.79	1.96	0.0	11	22	2	7	sw.	P. C. Quattlebaum.
Darlington	Darlington	175	15																	D. C. McCall.
Dillon	Dillon	100	6	80.5	− 0.1	97a	28	63a	20	29a	6.26	+ 0.50	1.47	0.0	15					A. E. Rowell.
Effingham	Florence	106	18								3.50	− 0.37	1.25	0.0	11	26	0	5	sw.	H. B. McCall.
Ferguson	Berkeley	51	2								5.58d		1.01	0.0	10d	24d	0d	3d	w.	Pierre Gaillard.
Florence	Florence	136	22	81.8	+ 0.4	99	28†	62	20†	29	6.02	+ 0.42	1.80	0.0	14	19	2	10	sw.	H. K. Gilbert.
Georgetown	Georgetown	12	17	80.4	− 0.1	91	5†	65	20	18	3.69	− 3.70	1.94	0.0	5	4a	25a	1a	sw.	A. P. Hazard.
Greenville	Greenville	989	18	76.7	+ 0.7	90	31	61	20	20	3.73	− 1.91	0.72	0.0	13	18	5	8	sw.	Mrs. S. A. Crittenden.
Greenwood	Greenwood	671	22	80.5	+ 0.5	99	11†	59	20	28	5.46	+ 0.38	1.65	0.0	13	18	0	13	w.	M. M. Calhoun.
Heath Springs	Lancaster	568	9	79.8		97	11	58	20	24	5.42		1.70	0.0	17	13	15	3	w.	J. A. Weaner.
Jacksonboro	Colleton	13	2	79.3		93	29†	64	20	21	8.22		2.47	0.0	15	2	20	9	w.	W. E. Haskell, jr.
Kingstree	Williamsburg	54	22			98	16				7.00	+ 1.17	2.35	0.0	12	19	7	5	sw.	A. O. Matthews.
Liberty	Pickens	900	16	78.4	− 0.7	93	11†	64	19	24	5.77	+ 0.37	1.10	0.0	16	7	22	2	sw.	Jno. T. Boggs.
Little Mountain	Newberry	711	17	77.2d	− 2.8	93b	14	60	21†	25	2.85	− 2.05	0.88	0.0	11	19	4	8	sw.	Dr. J. M. Sease.
Meriwether	Edgefield		1			96p	31	60p	8		3.69									W. S. Middleton.
Newberry	Newberry	502	6	79.9	− 0.4	97	14	60	20†	27	3.66	− 1.71	0.60	0.0	12	2	19	10	s.	W. G. Peterson.
Pelzer	Anderson	873	5								2.98		0.78	0.0	10	14	4	13	w.	John M. Ward.
Pinopolis	Berkeley	55	17																	Miss E. P. Ravenel.
St. George	Dorchester	109	22	81.2	+ 0.4	97	6	65	20†	25	7.24	+ 1.26	1.20	0.0	17	27	0	4		G. F. Lewis.
St. Matthews	Calhoun	209	22	78.6	− 1.4	90	28†	64	20†	17	5.57	− 0.20	1.70	0.0	12	19	0	12		J. S. Wannamaker.
Saluda	Saluda	530	8	79.4d		98d	31	60d	20	27	5.68		2.10	0.0	14	17b	3b	3b	sw.	Alvin Etheridge.
Santuc	Union	512	15	79.9	+ 0.7	101	31	59	20	35	6.44	− 1.45	1.33	0.0	15	1	21	9	sw.	E. W. Jeter.
Smith Mills	Williamsburg	62	15								6.02	− 0.40	1.15	0.0	12	21	1	9	s.	W. G. Walker.
Society Hill	Darlington	192	19	79.1	− 0.3	93	11	61	19†	23	5.93	− 0.25	1.88	0.0	16	3	15	13	sw.	Major J. J. Lucas.
Spartanburg	Spartanburg	875	19	80.0	+ 0.7	98	11†	59	20	31	3.69	− 0.89	0.65	0.0	13	10	0	21		F. P. Robinson.
Summerville	Dorchester	75	13	79.4	− 0.3	95	30	64	20†	22	8.07	+ 1.63	2.07	0.0	21	1	27	3	sw.	Miss E. H. Gadsen.
Trenton	Edgefield	620	17					60	20		7.11	+ 1.34	2.39	0.0	12	3	25	3	s.	C. A. Long.
Trial	Berkeley	85	23	78.1	− 1.0	92	13†	62	20†	25	8.17	+ 2.01	1.45	0.0	16	4	20	7	sw.	Etsell Gaillard.
Walterboro	Colleton	69	6	80.6		99a	31	64a	20†	28	10.46		1.97	0.0	17	11	12	8		J. A. Westerberg.
Winnsboro	Fairfield	545	21	78.4	− 0.7	95	11	62	19†	24	5.29	+ 1.08	2.50	0.0	10	4	27	0	sw.	John W. Seigler.
Winthrop College	York	690	11	79.0	− 0.8	93	7†	60	20	24	5.88	+ 1.68	1.47	0.0	12	13	11	7	sw.	E. R. Rivers.
Yemassee	Hampton	23	15	79.4	− 2.0	95	6†	63	3†	27	9.07	+ 2.31	1.31	0.0	18	22	2	7		J. G. Hutson.
Georgia.																				
Abbeville	Wilcox		7								5.77		1.48	0.0	13	10	3	18	s.	W. H. Calhoun.
Adairsville	Bartow	772	18	78.4	− 0.2	93a	10	60	21	28	3.39	− 2.03	0.89	0.0	16	2a	26a	2a		Dr. J. P. Bowdoin.
Albany	Dougherty	230	25	81.4	− 1.5	97	29	63	21	25	5.08	− 0.59	1.02	0.0	15	13	6	9	sw.	Geo. C. Brosnan.
Allapaha	Berrien	293	21	82.2	+ 0.8	96	29	68	20	19	9.34	+ 3.59	2.82	0.0	15	4	20	7	sw.	James T. Austin.
Americus	Sumter	362	27	80.0	− 2.5	97a	29	61	21	27	3.63	− 1.58	0.75	0.0	9	16	4	11	w.	F. P. Harrold.
Athens	Clarke	694	33	78.3	0.0	93	15	61	20	25	7.24	+ 2.52	1.98	0.0	17	13	7	11	sw.	C. D. Cox.
Atlanta	Fulton	1,218	45	76.6	− 2.1	92	31	62	20	21	3.25	− 1.05	1.44	0.0	12	3	14	14	se.	U. S. Weather Bureau.
Augusta	Richmond	180	44	79.4	− 2.4	95	31	62	20	21	4.71	− 0.12	1.27	0.0	17	2	18	11	sw.	U. S. Weather Bureau.
Bainbridge	Decatur	119	18	79.3	− 2.5	98	29†	65	21	26	6.25	− 0.21	1.70	0.0	21	17	2	12	n.	Mrs. C. O. Wimberley.
Barnesville	Pike	875	2	77.8		93	15	62	20	21	6.17		1.09	0.0	17					Prof. T. O. Galloway.
Blakely	Early	300	19	82.0d	+ 0.3	104d	15	62c	21	38d	7.61	+ 0.44	1.48	0.0	11	5c	15c	8c	sw.	Ralph M. Hobbs.
Butler	Taylor	650	8								5.66		0.95	0.0	11	7	11	13	w.	Mrs. Mamie F. Wallace.
Camak	Warren	613	17	78.8	− 1.8	99	31	57	20	31	7.40	+ 2.16	1.52	0.0	12	3	10	18		J. A. Chapman.
Canton	Cherokee	894	17								5.77	+ 1.23	1.40	0.0	10					G. W. Evans.
Carlton	Madison	557	11								5.43	+ 0.82	2.16	0.0	11	12	1	18	w.	M. C. Power.
Clayton	Rabun	2,100	17	74.5	+ 0.1	89	11†	58	21	26	6.32	− 1.41	2.00	0.0	11	12	15	4	e.	A. J. Duncan.
Columbus	Muscogee	262	23	79.9	− 1.3	97	31	62	21	25	5.00	− 1.02	1.27	0.0	15	17	4	10	sw.	A. J. Land.
Covington	Newton	800	17								6.05	− 1.32	2.10	0.0	10	17	6	8	e.	Mrs. Sarah E. Cruse.
Cuthbert	Randolph	446	11	78.7	− 2.2	94	13†	65	24	25	4.89		1.00	0.0	13	11	16	4		Prof. W. McMichael.
Dahlonega	Lumpkin	1,519	18	75.8	+ 0.3	92	31	60	20	29	5.13	− 0.87	1.43	0.0	19	1	26	4	nw.	Prof. B. P. Gaillard.
Diamond	Gilmer	2,020	29	73.1	− 1.4	90a	15	57a	20†	25	5.24	− 1.47	0.95	0.0	18	8b	11b	10b		R. A. Kimsey.
Dublin	Laurens	452	16								3.58	− 1.94	0.52	0.0	12	19	0	12	sw.	Mrs. M. E. Martin.
Dudley	...do		8	79.8		94	11†	62	21	24	5.02		1.10	0.0	11	5	24	2	sw.	J. H. M. O'Sullivan.
Eastman	Dodge	361	19	81.6	− 0.4	99	14	62	21	30	4.81	− 1.31	0.81	0.0	15	8	7	16	w.	Miss A. M. Bohannon.
Eatonton	Putnam		7	77.4c		94c	30	58c	20	29c	3.99		0.98	0.0	10					Prof. W. C. Wright.
Elberton	Elbert	710	19	78.4	− 1.3	96	31	60	20	25	4.89	− 0.56	0.97	0.0	11	12	18	1	w.	H. A. Roebuck.
Experiment	Spalding	946	10	77.2	− 2.3	93	15	57	20	20	4.47	+ 0.93	1.30	0.0	11	0	28	3		Martin V. Calvin.
Fort Gaines	Clay	166	23	79.8	− 1.7	96a	14†	62	21	26a	6.99	+ 1.12	1.30	0.0	15	12	4	15	sw.	Mrs. Eva T. Graham.
Gainesville	Hall	1,254	34	75.8		93	31	57	20	27	3.05	− 1.91	1.00	0.0	13	13	0	18	w.	W. C. Walker.
Gillsville	...do	1,052	20	77.8	− 0.4	95	24†	59	20	30	3.67	− 1.80	0.77	0.0	12	3	23	5	w.	J. W. Casey.
Glennville	Tatnall		5	81.9		99	15	67	20†	25	3.91		1.22	0.0	13	20	9	2	sw.	Wm. C. Barnard.
Gore	Chattooga		12	77.0	− 0.6	92	11	60	21	26	6.89	+ 1.22	1.43	0.0	17	15	8	8	sw.	H. M. Ponder.
Greensboro	Greene	598	8	78.8		93	11†	60	20	22	6.20		1.20	0.0	13	11	9	11	w.	R. L. Caldwell.
Griffin	Spalding	975	21	76.6		94	15†	58	20	27	7.68	+ 2.59	1.95	0.0	12	13	0	18	sw.	V. P. Enloe.
Harrison	Washington	245	12	78.2	− 2.6	94	15†	60	21†	27	4.66	+ 0.14	1.22	0.0	15	18	9	4	w.	A. W. J. Wood.
Hartwell	Hart	838	2								4.64		1.03	0.0	11	20	8	3	se.	Dr. W. I. Hailey.
Hawkinsville	Pulaski	235	15			97l	29	66l	5	26l	3.08	− 2.71	0.60	0.0	11	13	12	6	sw.	R. H. Wood.
Helena	Telfair	260	3	80.6		95	15†	61	21	27	4.32		0.86	0.0	20	3	9	19	w.	James D. Smith.
Lafayette	Walker	871	4	77.1		93	10†	55	22	33	4.54		0.83	0.0	11	7	10	14	s.	Ralph A. Snow.
Lisbon	Lincoln		4	78.9		97	31	59	20	27	8.85		3.72	0.0	19	11	4	16	sw.	B. J. DuBose.
Lost Mountain	Cobb		10	77.8	− 0.9	92	15†	60	19†	25	3.96	− 0.77	0.80	0.0	14	1	29	1	sw.	A. N. Mayes.
Louisville	Jefferson	259	18	78.4	− 2.3	91	30†	63	20	19	8.13	+ 1.93	2.07	0.0	13	9	20	2		J. C. Little.
Lumber City	Telfair		2								6.08		1.40	0.0	16	11	10	10	w.	Walter A. Hilton.
Lumpkin	Stewart	650	17	79.6	− 1.0	96	29	62	21	27	4.70	+ 0.09	1.16	0.0	13	1	25	5	sw.	A. W. Latimer.
Macon	Bibb	370	33	78.8	− 2.5	93	29	63	20	21	3.94	− 0.58	1.49	0.0	13	5	13	13	sw.	U. S. Weather Bureau.
Marshallville	Macon	500	18	79.4	− 2.2	99	15	60	19	28	7.32	+ 1.76	1.52	0.0	15	1	14	16	e.	E. C. Bryan.
Mauzy	Colquitt		12	81.2d	+ 0.2	98d	14	65d	21	28d	6.56	− 1.28	1.35	0.0	14	11d	13d	3d	sw.	T. J. Hudson.
Milledgeville	Baldwin	276	22	80.0	− 0.8	94	13†	62	20	27	5.97	+ 0.79	1.88	0.0	13	14	7	10	sw.	Prof. O. M. Cone.
Millen	Jenkins	158	23	80.3	− 1.7	100	29	60	20†	32	2.04	− 3.97	0.50	0.0	9					M. G. McComb.
Montezuma	Macon	292	5								4.16		1.12	0.0	13	15	4	12	w.	R. E. Fokes.
Monticello	Jasper	800	14	79.0	− 1.2	96	31	60	20	26	6.76	+ 1.80	1.93	0.0	13	21	0	10		Miss Maude C. Penn.
Morgan	Calhoun	337	18	78.0	− 2.3	92	30	64	18	19	7.05	+ 1.74	1.10	0.0	15	11	16	4	sw.	W. J. Ragan.
Newnan	Coweta	959	22	77.1	− 2.8	93	31	58	21	23	6.72	+ 1.65	1.50	0.0	11	18	2	11	sw.	Mrs. I. J. Milner.
Norcross	Gwinnett	1,078									3.84		0.86	0.0	17	11	7	13		W. O. Medlock.

TABLE 1.—*Climatological data for July, 1910. District No. 2*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Number of rainy days .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Georgia—Cont'd.																			
Point Peter	Oglethorpe	1,000	21	76.9	− 2.4	91	14†	59	20	22	6.02	+ 0.94	1.00	0.0	15	5	19	7	sw.	C. M. Witcher.
Poulan	Worth	365	19	79.9	− 0.1	96	29	62	20	26	8.22	+ 1.66	2.78	0.0	18	6	15	10	.....	Dr. J. F. Wilson.
Putnam	Marion	.....	11	78.0	.....	95	10†	58	21	31	4.60	+ 0.65	1.00	0.0	7	2	20	9	s.	Mrs. J. M. Collum.
Quitman	Brooks	173	26	80.0	− 1.6	96	29	65	21	23	8.64	+ 1.02	2.90	0.0	14	22	1	8	sw.	A. B. Jones.
Ramsey	Murray	1,363	17	75.0	− 2.4	87	25	61	21	17	7.98	+ 2.85	1.58	0.0	19	7	16	8	sw.	D. E. Humphreys.
Resaca	Gordon	657	17	.....	.....	.....	.....	.....	.....	.....	4.20	− 0.04	1.10	0.0	11	.....	.....	.....	.....	D. A. Norton.
Rome	Floyd	576	55	78.5	− 1.4	94	25	60	19	28	3.64	− 0.31	0.86	0.0	15	10	7	14	s.	W. M. Towers.
St. George	Charlton	.....	4	80.0	.....	96	14	63	21	30	5.94	.....	0.97	0.0	15	17	12	2	sw.	A. N. Lund.
St. Marys	Camden	20	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	David C. Sterling.
Savannah	Chatham	65	60	80.4	− 1.3	97	29	64	21	25	6.08	− 0.84	2.31	0.0	13	6	16	9	sw.	U. S. Weather Bureau.
Statesboro	Bulloch	253	10	82.2	+ 0.6	100	12†	65	21	29	3.46	− 2.68	1.11	0.0	13	9	20	2	.....	J. C. Cromley.
Talbotton	Talbot	750	17	78.6	− 0.9	97a	15†	58a	21	31a	4.48	− 1.00	0.77	0.0	16	9a	9a	12a	sw.	Dr. E. L. Bardwell.
Tallapoosa	Haralson	1,150	18	77.2	− 1.1	93	31	57	21	30	5.20	+ 0.19	1.65	0.0	13	11	9	11	ne.	Elmer C. Bishop.
Thomasville	Thomas	273	27	80.4	− 1.0	98	29	66	21	26	4.71	− 2.11	1.04	0.0	19	7	17	7	s.	U. S. Weather Bureau.
Toccoa	Stephens	1,050	25	.....	.....	91	31	.....	.....	.....	6.81	+ 0.77	2.00	0.0	16	17	0	14	w.	Mrs. Alice Starke.
Valdosta	Lowndes	219	5	81.6	.....	99	15†	65	21	28	6.37	.....	1.35	0.0	10	19	0	12	e.	Miss Annie Twitty.
Valona	McIntosh	10	10	80.8	+ 0.5	95	15†	63	21	23	14.05	+ 7.49	8.60	0.0	12	19	11	1	sw.	J. M. Atwood.
Washington	Wilkes	630	23	79.2	− 1.2	96	11†	60	20	27	7.40	+ 2.43	1.43	0.0	14	10	10	11	sw.	Miss Ella B. Smith.
Waycross	Ware	131	21	81.6	− 0.6	98	15†	64	21	26	5.96	+ 0.01	2.00	0.0	16	23	4	4	sw.	Thomas Sasser.
Waynesboro	Burke	86	19	79.9	− 1.0	99	31	61	22	31	3.81	− 1.63	1.90	0.0	12	17	6	8	w.	Mrs. H. W. Blount.
West Point	Troup	620	22	79.4	− 2.3	97	15	60	21	27	6.16	+ 1.54	1.42	0.0	14	9	3	19	w.	E. N. Dunn.
Woodbury	Meriwether	641	10	75.6	.....	91	15	.....	.....	30	5.65	+ 1.53	2.44	0.0	8	4	7	20	sw.	G. A. Wright.
Florida.																				
Apalachicola§	Franklin	24	5	80.5	.....	92	29†	70	1†	18	8.60	.....	2.49	0.0	9	9	18	4	sw.	G. H. Whiteside.
Arcadia	De Soto	61	8	79.9	.....	95	2†	65	9†	30	7.79	.....	1.25	0.0	24	9	13	9	w.	C. S. Bushnell.
Archer	Alachua	92	24	.....	.....	94	15	.....	.....	.....	8.28	− 0.63	1.50	0.0	21	.....	.....	.....	.....	R. B. Hodgson.
Avon Park	De Soto	150	11	.....	.....	94	18	.....	.....	.....	9.04	+ 0.83	2.06	0.0	20	3	21	7	se.	O. R. Thacher.
Bartow	Polk	115	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.0	.....	.....	.....	.....	.....	Wm. Hood.
Blountstown	Calhoun	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.0	.....	.....	.....	.....	.....	C. L. Hobbs.
Bonifay	Holmes	111	8	79.4	.....	97	30	61	3	24	3.98	.....	1.79	0.0	6	0	4	27	s.	Wm. Rush.
Brooksville	Hernando	126	17	80.6	− 0.1	96	13	63	23	26	5.75	− 4.40	1.19	0.0	12	9	19	3	w.	C. C. Peck.
Carrabelle	Franklin	10	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.0	.....	.....	.....	.....	.....	J. J. Blomquist.
Cedar Keys	Levy	10	12	82.2	+ 0.1	92	5†	69	22	21	6.28	− 2.47	1.66	0.0	14	18	0	13	w.	J. B. Lutterloh.
Clermont	Lake	105	16	81.4	− 1.5	98	8	67	21	28	10.80	+ 3.42	3.30	0.0	14	4	27	0	e.	S. S. Fesler.
DeFuniak Springs	Walton	193	14	78.8	− 1.7	97	30	60	1†	27	14.35	+ 7.34	2.00	0.0	15	9	13	9	sw.	R. W. Storrs.
DeLand	Volusia	27	13	78.5	− 1.9	90	17	67	9†	21	6.76	.....	1.47	0.0	21	2	2	27	se.	Dr. O. B. Webster.
Eustis	Lake	56	17	81.6	− 0.6	97	5	67	10	25	12.73	+ 5.73	2.14	0.0	22	1	19	11	s.	C. T. Smith.
Federal Point	Putnam	5	17	81.0	+ 0.1	95	15	67	24	23	7.28	+ 0.34	2.05	0.0	16	8	22	1	sw.	E. S. Hubbard.
Fenholloway	Taylor	75	3	79.6	.....	94	7†	60	4	28	9.50	.....	2.50	0.0	10	5	17	9	sw.	Miss E. Wigglesworth.
Fernandina	Nassau	10	12	79.6	− 1.7	94	16	67	21	22	2.17	− 4.17	0.59	0.0	13	18	6	7	se.	W. B. C. Duryee.
Fort Meade	Polk	125	17	80.2	− 0.1	98	6	65	15	29	8.14	− 0.75	1.86	0.0	15	11	13	7	sw.	G. L. Broderick.
Fort Myers	Lee	12	17	79.2	− 1.6	90	5†	67	15	20	9.27	+ 1.07	1.44	0.0	18	18	12	1	se.	Miss M. M. Gardner.
Fort Pierce	St. Lucie	6	18	78.4	− 2.9	94	18	66	15†	25	6.28	+ 0.43	1.64	0.0	13	23	2	6	se.	T. J. O'Brien.
Gainesville	Alachua	176	23	79.8	− 1.5	93	9	68	20†	23	6.89	− 0.60	0.90	0.0	23	13	8	10	.....	J. P. H. Bell.
Grasmere§	Orange	175	13	80.1	− 2.2	94	12	67	23	25	5.98	.....	1.30	0.0	19	15	15	1	.....	J. B. Escott.
Hilliard	Nassau	69	1	80.4	.....	96	29	64	3	25	5.65	.....	1.10	0.0	9	17	7	7	.....	The Hilliard Co.
Homestead	Dade	5	.....	.....	.....	93	17	.....	.....	.....	4.74	.....	1.23	0.0	16	3	23	5	se.	W. J. Krone.
Huntington	Putnam	56	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.0	.....	.....	.....	.....	.....	C. E. Walker.
Hypoluxo	Palm Beach	4	9	81.8a	+ 0.7	97a	18	67a	21	27	5.30	− 0.20	1.78	0.0	.....	.....	.....	.....	.....	G. A. Angevine.
Inverness	Citrus	43	8	79.0	.....	90	4†	69	23	20	13.86	+ 2.91	4.29	0.0	17	2	22	7	sw.	W. H. Miller.
Jacksonville	Duval	101	37	81.0	+ 0.1	95	29	69	20	20	6.13	− 0.07	2.03	0.0	15	9	15	7	sw.	U. S. Weather Bureau.
Jasper	Hamilton	152	11	84.2	.....	98	7†	67	27	28	8.52	+ 1.84	2.00	0.0	10	.....	.....	.....	.....	G. W. Duncan.
Johnstown	Bradford	125	14	80.4	− 1.0	96	5	67	24	27	7.63	− 0.35	1.20	0.0	19	5	23	3	.....	A. M. C. Brasch.
Jupiter	Palm Beach	34	21	80.2	− 0.8	89	19	67	28	19	4.99	− 0.38	1.42	0.0	11	11	20	0	se.	U. S. Weather Bureau.
Key West	Monroe	14	38	82.8	− 0.9	90	31	71	19	18	2.57	− 1.02	1.09	0.0	12	14	9	8	e.	Do.
Kissimmee	Osceola	65	17	82.0	0.0	96	23	68	10	26	10.52	+ 3.32	2.18	0.0	16	1	25	5	sw.	J. A. Simpson.
Lake City	Columbia	210	20	79.4	− 1.7	94	29	67	12†	26	8.23	+ 0.29	1.20	0.0	15	1	20	10	se.	W. B. Knight.
Live Oak	Suwanee	109	8	82.4	.....	98a	1	69a	20†	25	14.79	+ 8.58	5.30	0.0	16	.....	.....	.....	.....	D. O. Henry.
Macclenny	Baker	125	13	.....	.....	.....	.....	.....	.....	.....	9.95	+ 2.35	2.65	0.0	.....	.....	.....	.....	.....	Griffing Bros. Co.
Madison	Madison	200	6	80.6	.....	97	29	66	20	20	5.30	− 3.38	1.88	0.0	17	0	15	16	se.	E. J. Vann.
Malabar	Brevard	24	8	80.6	.....	97	17†	65	21	30	5.05	.....	1.81	0.0	11	28	2	1	se.	J. F. Farley.
Manatee	Manatee	8	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.0	.....	.....	.....	.....	.....	W. P. Fuller.
Mariana	Jackson	80	9	79.7	.....	96	30	66	21†	24	8.20	.....	4.08	0.0	15	18	5	8	sw.	W. J. Watson.
Meritts Island	Brevard	20	30	79.7	− 1.7	92	17	68	21	17	3.92	− 1.67	1.27	0.0	11	2	29	0	se.	F. Ulrich.
Miami	Dade	5	13	81.6	− 0.6	92	1†	69	20†	22	5.12	− 1.97	1.32	0.0	12	11	14	6	se.	E. V. Blackman.
Miami (Subtrop. Gar.)	...do	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.0	.....	.....	.....	.....	.....	Edwars Simmonds
Middleburg	Clay	10	8	81.2a	.....	98a	29	67a	14†	28	5.15	.....	1.40	0.0	11	.....	.....	.....	s.	G. A. Chalker.
Molino	Escambia	49	8	79.2	.....	102	30	66	19†	29	7.63	.....	3.50	0.0	10	12	10	9	s.	W. H. Trimmer.
Monticello	Jefferson	207	4	80.7	.....	98	29†	66	21	27	2.80	.....	1.25	0.0	4	16	6	9	s.	E. C. Potter.
Mount Pleasant	Gadsden	260	5	79.9	.....	98	30	65	1†	26	10.73	.....	2.15	0.0	19	.....	.....	.....	sw.	Miss Addie Grubb.
Newport	Wakulla	.....	8	78.6	.....	92	29	64	23	20	6.80	+ 0.66	1.51	0.0	8	15	8	8	sw.	J. M. Ladd.
New Smyrna	Volusia	9	21	77.8	− 2.7	94	1	63	8†	23	6.32	+ 0.86	2.30	0.0	13	.....	.....	.....	.....	F. Nordman.
Ocala	Marion	98	22	81.2	− 0.2	95	4†	68	5	27	8.04	− 0.29	2.30	0.0	13	5	22	4	.....	Dr. F. T. Schreiber.
Orange City	Volusia	39	19	81.2	− 1.2	99	16	66	10	30	8.08	+ 1.72	1.38	0.0	18	10	18	3	se.	J. D. Graham.
Orlando	Orange	111	17	80.2	− 1.8	92	17	69	10†	21	9.71	+ 2.61	1.85	0.0	20	6	19	6	e.	Jas. Thompson.
Pensacola	Escambia	149	31	79.6	− 1.8	94	30	69	17	18	7.08	+ 0.71	1.36	0.0	17	3	18	10	s.	U. S. Weather Bureau.
Plant City	Hillsborough	121	17	80.2	− 1.9	96	4	67	27	28	15.62	+ 7.41	2.10	0.0	19	3	28	0	s.	E. B. Trask.
Rockledge	Brevard	28	1	79.4	.....	92	18	68	8†	20	3.54	.....	0.80	0.0	11	13	13	5	se.	Rev. J. H. White.
Rockwell	Marion	10	10	80.9e	.....	95a	19	70a	9†	24	6.70	− 3.45	2.00	0.0	10	.....	.....	.....	sw.	Dunellon Phos. Co.
St. Andrew	Washington	14	14	83.2	+ 1.4	94	28	72	1	15	4.71	− 3.25	1.32	0.0	14	22	8	1	s.	W. A. Emmons.
St. Augustine	St. Johns	10	59	79.4	− 1.3	92	29	63	11	23	3.32	− 2.24	0.75	0.0	12	15	15	1	se.	J. R. Palmer.
Sand Key	Monroe	.....	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.0	.....	.....	.....	.....	.....	U. S. Weather Bureau.
St. Leo	Pasco	140	14	79.9	− 1.8	94	7	68	10†	23	8.05	− 1.29	2.00	0.0	23	3	18	10	s.	G. Schneider.
Satsuma Heights§	Putnam	98	1	81.0	.....	99	7	67	11†	29	6.93	.....	2.20	0.0	19	2	23	6	.....	The Satsuma Co.
Switzerland	St. Johns	10	13	80.1d	− 0.3	92e	4†	68e	10†	...	6.36	− 1.59	1.61	0.0	13	.....	.....	.....	.....	W. C. Steele.
Tallahassee	Leon	192	24	79.1	− 1.3	94	29†	68	1†	25	4.99	− 2.80	1.60	0.0	14	17	8	6	s.	W. H. Markham.
Tampa	Hillsborough	79	19	80.3	+ 0.3	93	6	70	6	23	9.73	+ 1.30	2.68	0.0	21	5	19	7	ne.	U. S. Weather Bureau.
Tarpon Springs	...do	20	16	79.9	− 0.9	94	5†	65	11	29	7.73	− 1.29	1.78	0.0	18	18	6	7	w.	A. P. Albaugh.
Titusville	Brevard	6	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.0	.....	.....	.....	.....	.....	F. M. Taylor.
Wausau	Washington	250	12	82.2	+ 0.3	99	27†	61	2	33	14.70	+ 7.85	2.00	0.0	20	0	11	20	s.	Curtis Jones.
Alabama.																				
Alaga	Houston	105	5	.....	.....	.....	.....	.....	.....	.....	9.10	.....	1.78	0.0	15	12	9	10	sw.	James L. Willis.
Anniston	Calhoun	741	19	77.7	− 0.2	91	28	58	21	26	4.15	− 0.58	1.38	0.0	13	1	10	20	s.	U. S. Weather Bureau.
Ashville	St. Clair	685	17	77.7	− 0.6	94	27†	57	21	33	4.04	− 1.01	0.88	0.0	16	12	10	9	sw.	George R. Cather.
Auburn	Lee	732	28	78.9	− 0.8	96	14	59	21	29	4.41	− 1.19	1.34	0.0	7	0	15	16	sw.	Dr. James T. Anderson.
Benton	Lowndes	149	9	.....	.....	.....	.....	.....	.....	.....	5.42	.....	1.77	0.0	14	10	12	9	w.	S. T. Pruitt.
Bermuda	Conecuh	.....	23	78.6a	− 1.5	95	30	61a	3	24a	11.26	+ 6.45	4.16	0.0	15	8	18	5	se.	M. J. Morris.

TABLE 1.—*Climatological data for July, 1910. District No. 2*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Alabama—Cont'd.																				
Birmingham	Jefferson	700	22	77.5	− 2.3	90	29	63	21	21	10.80	+ 6.10	2.56	0.0	17	1	15	15	s.	U. S. Weather Bureau.
Calera	Shelby	500	9								6.20		0.85	0.0	14	12	4	15	w.	L. G. Privett.
Camp Hill	Tallapoosa	738	9	77.8		94	15†	58	21	29	8.91		2.00	0.0	12	16	9	6	sw.	Dr. Lyman Ward.
Cedar Bluff	Cherokee	594	6								3.12		1.04	0.0	7	8	23	0		Joe L. Daniel.
Citronelle	Mobile	331	22	79.1	− 1.8	93	30	67	26	22	6.60	+ 0.43	1.20	0.0	20	15	11	5	s.	George A. Maloney.
Clanton	Chilton	500	17	78.4	− 1.4	92	11†	62	21	23	8.54	+ 3.94	1.70	0.0	17	6	1	24	sw.	Wallace C. Edler.
Cochrane	Pickens										3.54		1.30	0.0	9	13	4	14	sw.	E. L. Rose.
Cordova	Walker	334	19	78.6	− 0.5	94	28†	58	21	27	6.76	+ 1.63	1.60	0.0	16	7	12	12	s.	Scott Maxwell.
Cullman	Cullman	802	2	76.2		92	29	57	21	27	6.17		1.12	0.0	20	14	13	4	w.	Eugene A. Grayot.
Dadeville	Tallapoosa	760	5								6.97		1.65	0.0	12	10	10	11	sw.	Dr. W. B. Fulton.
Daphne	Baldwin		19	79.6	− 1.3	94[b]	29†	66[b]	17	21[b]	12.10	+ 5.17	3.20	0.0	17	4	8	19	sw.	John H. Young.
Demopolis	Marengo		18								7.36	+ 3.31	1.16	0.0	17	20	7	4	sw.	George E. Pegram.
Eufaula	Barbour	200	26	78.0	− 2.6	94	28†	60	21	25	9.00	+ 2.72	2.40	0.0	18	7	11	13	sw.	Dr. J. B. Whitlock.
Evergreen	Conecuh	285	26	79.8	− 0.7	96	29†	64	30	32	8.01	+ 1.84	2.10	0.0	16	6	0	25	s.	Robert L. Whitcomb.
Flomaton	Escambia	91	18	80.2	− 0.7	95	30	67	3	25	6.73	+ 0.59	1.28	0.0	15	11	14	6	s.	T. J. Farris.
Fort Deposit	Lowndes	520	26	79.8	− 1.4	96	11	64	21	24	11.24	+ 6.37	3.60	0.0	14	12	9	10	n.	J. F. Hattemer.
Gadsden	Etowah	621	26	78.0	− 1.6	100	15	59	21†	29	4.48	− 0.04	0.80	0.0	15	6	5	20	sw.	D. P. Goodhue.
Goodwater	Coosa	826	15	77.4	− 3.0	93	15	60	20†	26	5.20	− 0.18	1.65	0.0	11	22	0	9	sw.	D. S. Brown.
Greensboro	Hale	220	31	80.0	− 0.3	93	15†	66	21	20	8.41	+ 4.63	2.43	0.0	13	7	9	15	sw.	W. E. W. Yerby.
Greenville	Butler	444	9								5.14		1.59	0.0	9	23	0	8		E. M. Lewis.
Hamilton	Marion		14	76.4	− 2.9	94	29	58	1	30	7.07	+ 2.92	1.00	0.0	13	10	5	16	w.	Prof. H. O. Sargent.
Highland Home	Crenshaw		18	78.4	− 1.4	94	30	64	21	24	7.94	+ 2.60	1.85	0.0	14	14	5	12	s.	Prof. Samuel Jordan.
Livingston	Sumter	160	26	80.0	− 1.3	95	10	66	21†	25	4.74	+ 0.28	1.10	0.0	11	18	1	12	e.	Robert L. King.
Lock No. 4	Talladega	510	13	78.2	− 2.0	93	28	58	21	25	4.30	− 0.78	0.80	0.0	13	16	1	14	w.	U. S. Engineers.
Lucy	Houston		5	79.8		98	30	63	21	29	9.86		1.83	0.0	16	5	23	3		A. L. Crosby.
Maple Grove	Cherokee		17	78.6	− 0.6	96	25	60	20	33	7.15	+ 2.38	2.41	0.0	13	3	24	4	sw.	Mrs. A. L. Awbrey.
Mentone	DeKalb	1,595	3								4.87		1.85	0.0	9	8	6	17	w.	E. Mason.
Milstead	Macon		7								3.90		1.20	0.0	11	7	18	6	e.	Evie Oswalt.
Mobile	Mobile	57	38	80.2	− 0.3	95	29	68	16	22	11.70	+ 4.66	5.31	0.0	17	0	24	7	s.	U. S. Weather Bureau.
Montgomery	Montgomery	240	38	79.2	− 1.8	94	15	65	21	20	10.27	+ 5.59	4.89	0.0	15	6	19	6	sw.	Do.
Newbern	Hale		17	79.9	− 1.9	95	11†	62	21	26	9.12	+ 5.03	3.40	0.0	17	4	22	3	sw.	Dr. J. Huggins.
Oneonta	Blount	857	16	75.9	− 1.9	92	29	59	20	26	6.40	+ 0.29	1.61	0.0	23	2	3	26	s.	Aquilla J. Ketchum.
Opelika	Lee	817	31	78.4	− 2.0	95	9†	58	21	33	8.24	+ 3.21	2.25	0.0	12	10	5	16	sw.	A. H. Read, jr.
Ozark	Dale	400	8	79.4		96	29	64	21	24	5.77		2.00	0.0	10	13	12	6	s.	Miss Lucy Sellers.
Prattville	Autauga	281	10	78.8	− 1.7	95	10†	64	22	25	4.94		0.82	0.0	13	10	18	3	w.	Jos. B. Bell.
Pushmataha	Choctaw		19	81.4	+ 0.5	100	16	62	21	32	6.82	+ 1.96	2.48	0.0	16	8	12	11	sw.	E. A. Carr.
Selma	Dallas	147	30	78.6	− 3.0	95	15	59	21	28	8.04	+ 3.47	1.52	0.0	16	11	14	6	w.	Charles F. Brislin.
Spring Hill	Mobile	312	6																	Spring Hill College.
Talladega	Talladega	554	20			96	15†				6.49	+ 1.95	2.30	0.0	12	11	10	10	e.	Dr. Charles S. Northen.
Tallassee	Elmore		19								8.46	+ 4.10	1.76	0.0	17	12	4	15	sw.	P. A. Noble.
Thomasville	Clarke	385	19	77.8	− 3.6	94	11†	63	21†	26	8.99	+ 4.03	2.25	0.0	17	20	3	8	s.	J. G. Forster.
Troy	Pike	581	2	77.8		91	15†	64	21	20	7.67		2.72	0.0	13	11	15	5	se.	C. S. Tutwiler.
Tuscaloosa	Tuscaloosa	230	29	80.0	− 1.3	96	29†	62	21	26	7.48	+ 3.11	1.50	0.0	17	15	0	16	s.	W. S. Wyman, jr.
Tuskegee	Macon		10	79.8	− 2.0	98	15	60	21†	31	3.24	− 1.41	0.81	0.0	11	0	27	4	s.	Prof. George W. Carver.
Union Springs	Bullock	216	23	79.0	− 2.3	94	30	62	21	22	6.58	+ 1.23	1.25	0.0	19	1	30	0	w.	P. L. Cowan.
Uniontown	Perry	273	24	78.7	− 2.3	93	11†	64	21	22	9.18	+ 4.21	5.29	0.0	12	12	18	1	sw.	F. D. Stevens.
Valley Head	DeKalb	1,031	25	77.0	− 0.1	94	29	58	22	32	6.78	+ 1.63	1.47	0.0	11	2	29	0	s.	M. T. Floyd, M. D.
Wetumpka	Elmore	205	18	79.0	− 2.9	94	11†	61	22	27	5.01	+ 0.13	1.45	0.0	10	14	0	17	s.	U. S. Engineers.
Mississippi.																				
Aberdeen	Monroe	210	22	79.5	− 1.1	95	29	62	19	26	8.41	+ 3.79	3.46	0.0	14	13	6	12	s.	L. D. Godfrey, jr.
Agricultural College	Oktibbeha	424	20	78.8	− 2.3	95	29	62	19	25	8.67	+ 4.04	2.00	0.0	14	8	12	11	w.	E. R. Lloyd.
Bay St. Louis	Hancock	28	17	81.0	− 0.4	94	30†	69	24	20	7.67	+ 0.79	2.19	0.0	14	15	11	5	s.	Brother Stanislaus.
Biloxi	Harrison	24	19	82.2	+ 0.3	97[a]	29†	69[a]	25	21[a]	8.76	+ 2.31	4.00	0.0	11	11[a]	12[a]	7[a]	sw.	Miss M. Josie Pope.
Booneville	Prentiss	504	16	78.4	− 1.4	93	29	56	20	28	9.85	+ 5.25	2.96	0.0	13	1	25	5	s.	Dr. D. T. Price.
Brookhaven	Lincoln	500	22	80.4	− 1.2	98	29	64	20	27	5.37	− 0.12	1.38	0.0	19	9	10	12	se.	W. J. Bee.
Columbia	Marion	110	6								7.44		1.34	0.0	17	12	8	11	sw.	N. R. Drummond.
Columbus	Lowndes	191	22	80.4	− 1.8	98	13	62	22	28	5.10	+ 0.34	0.97	0.0	12	9	7	15	sw.	J. B. Love.
Crystal Springs	Copiah	468	18	79.2	− 1.8	94	29	65	20	21	7.54	+ 1.61	2.57	0.0	13	18	13	0		D. H. Miller.
Edinburg	Leake		2	79.8		97	30	61	1	28	1.40		0.26	0.0	13	5	19	7	s.	J. Y. Blocker.
Enterprise	Clarke	248	5								6.61		1.00	0.0	16					J. B. Thompson.
Fulton	Itawamba		1								8.76		2.24	0.0	13	10	5	16	sw.	A. L. Summers.
Hattiesburg	Forest	189	17	81.4	− 0.8	97	30	67	1	25				0.0		17	2	12	s.	T. C. Spence.
Hazlehurst	Copiah	460	20	79.2	− 1.7	96*	29	*63	20	26*	4.59	− 0.28	1.00	0.0	10	15	5	11	s.	J. D. Granberry.
Hickory	Newton	326									4.65		1.25	0.0	7					A. C. Hailey.
Jackson	Hinds	280	23	80.4	− 0.9	97	30	64	20	24	4.77	+ 0.36	1.11	0.0	16	10	16	5	sw.	B. H. Klyce.
Lake	Scott	446	22	79.0	− 0.9	94	29†	61	19	26	2.41	− 2.72	0.57	0.0	11	8	11	12	s.	Mrs. Eddie McNeel.
Lake Como	Jasper		7	78.6		99	30	62	21	30	5.92		1.17	0.0	8	1	26	4	s.	C. Thigpen.
Laurel	Jones	241	6	80.0		97	29†	65	20	27	4.17		1.35	0.0	14	11	13	7	sw.	Thomas W. Flynt.
Leakesville	Greene		16	81.2	− 0.1	97	30	66	20	25	6.74	− 0.69	1.38	0.0	15	3	22	6		Dr. Sam Pool.
Louisville	Winston	561	21	78.6	− 0.9	93	29†	63	22	25	5.95	+ 1.08	1.17	0.0	18					B. T. Webster.
McNeill	Pearl River	230	7	79.9		96	30	66	24	22	10.75		1.70	0.0	18	2	29	0	se.	Prof. E. B. Ferris.
Macon	Noxubee	185	22	79.5	− 2.1	95	29	63	22	25	5.59		2.60	0.0	9	6	12	13	w.	Finis E. Carleton.
Magnolia	Pike	415	14	79.6	− 1.7	95	29	66	18†	23	6.54	− 1.04	1.19	0.0	15	0	22	9	s.	Miss Ruby V. Roberts.
Meridian	Lauderdale	375	20	78.6	− 1.4	92	30	65	21	23	7.34	+ 2.84	1.75	0.0	21	2	19	10	sw.	U. S. Weather Bureau.
Merrill	Greene	76	5								9.12		2.00	0.0	17	12	4	15	sw.	L. C. Helms.
Monticello	Lawrence	209	3	80.1		96	29	64	19	26	6.01		0.79	0.0	18	2	12	17	se.	Dr. G. A. Teunisson.
Okolona	Chickasaw	311	22	79.4	− 2.8	95	29†	62	19†	24	9.70	+ 5.76	1.55	0.0	15	10	9	12	sw.	D. H. Shell.
Pascagoula	Jackson	15	1																	Frederick Hess.
Pearlington§	Hancock	10	22	80.2	− 0.7	95	29	68	17	21	10.16	+ 3.34	3.47	0.0	11	7	18	6	sw.	Miss Annette Koch.
Porterville	Kemper		5	80.0		97	30	60	22	27	3.05		0.90	0.0	10	7	23	1	sw.	I. S. Rea.
Shubuta	Clarke	197	5								4.52		0.76	0.0	14					Geo. A. Floyd.
Waynesboro	Wayne	191	23	79.2	− 1.7	96	30	66	21†	27	5.25	+ 0.24	0.90	0.0	13	14	5	12	w.	R. S. Burke.
Woodland	Chickasaw		1								7.88		1.61	0.0	13					Tallahatchie Drain. Com.
Louisiana.																				
Pearl River	St. Tammany		5								6.09		2.04	0.0	16	21	8	2	e.	Geo. F. Bancks.

[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
* Precipitation included in that of the next measurement.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
‡ Separate dates of falls not recorded.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
‖ Estimated by observer.
‖‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for July, 1910. District No. 2, South Atlantic and east Gulf States.*

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Virginia.																															
Arvonia	James			T.	.95	.65		.06	.05			.20	1.46	1.74	.08		.29	.48	1.36	T.								.03			.03		7.38
Ashland	do				1.43	.10		.14	.24	.93				1.11	.06			.40	1.12													5.53
Buchanan‖	do					.14		.30		.06				.15	.96	.43		1.01	1.04	.12									T.			4.21
Callaville	Chowan				.42	.99		.49						.21	.18			.79	1.16													4.24
Cape Henry	Coast				1.20	T.		.28	T.					1.18	.17			1.39	.24	T.							32	T.			.30		5.08
Charlottesville	James				.30	.81	T.	1.10				.22	1.02	.23	1.47		1.43	.62	.70												.05		7.95
Clarkesville‖	Roanoke					.74			.21		.10				.24	.20			.22	.18													1.93
Columbia	James				1.20	.30		.10		1.60			.30	.53	.49			.30	.88									T.			.09		5.79
Danville‖	Roanoke				T.	.33	.05	T.	T.		2.44			.04	.43	.08		T.	.06	.04								.03	T.			.31	3.55
Diamond Springs	Coast				.10	.75		.63	.08					.26	.10	.07		1.51	.67									.40			.10		4.67
Hampton	do				.51	.95		.24	.27	.05				.40	.15	.04		*	1.25									.04					3.90
Hot Springs‖	James				.06	1.53	.02	.06	.60	.42				.12	.04	.44	1.90	.37	1.90	.06					.04		.02						7.58
Ivor	Chowan				.45	.14		.27	.58	.50				.44	.92	.02		1.33	1.80									.02					6.47
Lassiter	James				.15	.35				1.05				1.80				.30	2.15														5.80
Lexington	do				.07		.06	.98		T.	.48	.17	.03	T.	.17		.50	.20	.35				18					.01	.04		.03	3.27
Lynchburg	do			.05	.06	.01	T.	.28	.06		T.	1.26	T.	.11	.12	.01	.79	.14	1.30									T.		T.		4.19
New Castle‖	do		.04	.11	.21	.29	.63	1.52	.49		.24	.07		.15	.36		.18	1.28	.59	.12	1.08			18			.08		.04			7.65
Newport News	Coast				.64	1.09	.01	.35	.26	.02				1.80	.29			1.51	.51	.01							.48			.03			7.00
Norfolk	do				.79	.06		1.10	T.					.27	1.22			2.17	.15	T.							.40			T.			6.16
Petersburg	James																																
Randolph‖	Roanoke					.44			.22						.08				1.00	.20													1.94
Richmond	James			T.	.60	.01		.73	.62	.02				.63	1.30		T.	1.80	.69	T.										T.			6.40
Rocky Mount	Roanoke			.52		.50		.60		.10			.55	.07	.46	.95		.86	.24														4.85
Saxe	do					.77		.48						.33	.64			.12	.55														2.79
Spottsville (near)	Chowan				2.04	T.		.38						.18	1.27			1.96	1.52								T.						7.35
Williamsburg	James				1.05			.10	.50	.10				.20	1.90			.25	2.30														6.40
North Carolina.																																	
Beaufort	Bogue Sound	.12				1.30			.11						.44	.07			.07	.37			.08						.32	2.21	.03	.18	5.30
Belhaven	Pungo					.21		1.25	.77						3.58		1.76		.50	.13		.07	.20					.24			1.07	1.33	11.11
Brewers	Pedee																																
Carolcen	Santee		.25	.25	.09	1.00	.05	.43	.23	.31		.01		.39	.01	T.			T.	.09									.08				3.19
Chalybeate Springs	Cape Fear				T.	.06	.04	.53	.35	.56		.97	.08	1.25	.62			.08	1.20	.06		.34						1.00			.23		7.37
Chapel Hill	do																																
Charlotte	Santee	.03	T.	T.		.47		.05	.04	.77	.06			.19	T.			.12	.35	T.					.03		.28		.43		.30		3.12
Chimney Rock	do	.08	.04	.03	.08	.40	.40	1.05	.02	.30		.10		.69	.10				.12										.13		.03		3.57
Clinton	Cape Fear	T.			.10	.43		.55	.90			.50		1.15	2.25	T.		.60	.20	.05		T.						1.15					7.88
Durham (near)‖	Neuse				.57	.32	.06	.46						.25	.15												39						2.20
Eagletown	Chowan					.67		.67	.33					.37	.26		.17	.11	.70			T.			.22		T.	T.			.35		3.85
Edenton	Albemarle Sound					1.40						.20		.30		1.00		.25	1.00	.05		T.				1.39							5.59
Enfield (near)‖	Tar	1.20					.09								1.07			.40	.10													.33	3.19
Fayetteville‖	Cape Fear	.50				.22	.31	.57	.41	.17	.04		.40		.35	.36	.50		.09	.02		T.	.32						.21			T.	4.47
Goldsboro‖	Neuse	T.				.20	T.	T.	T.	.08	.23		1.04		.43	1.20			.85	.08	.01	.01	.55		.18				.58		.10	.13	5.67
Graham‖	Cape Fear					.28	.15	.03	.33	.03	.15				1.08	.16			.12	.06	.01				.08			2.00				.02	4.50
Greensboro‖	do							.15	.15	.30	.72				1.00	.11	.12		.85	.08								.10					3.58
Greenville‖	Tar					.18			.06	.72	.05		1.05		.70	.47			1.26	.09	.01	.02	.25		T.				.03		.01	.21	5.11
Hatteras	Pamlico Sound					.05			.32					.06	.47				.07	.65		.05	T.					.13	.10		.14		1.44
Henderson	Tar and Roanoke				.42	.10	.31	1.50	.20					.52	T.			.13	.11	.09						T.							3.38
Kinston	Neuse					.26		.05	.42	.65	.03	2.31			.98				1.70	.06		.07		.11				.43	.01		.61		7.69
Lenoir	Santee		.50	.06	1.40	.06	.22	.12	.05	.13		.02		.15	.08	.04		.11	.02							.07			.15				3.18
Lexington	Pedee				T.	T.		.24	.19	T.	.87		T.		.95	.20	.39	T.	.35	T.								T.					3.19
Lincolnton	Santee	.02				.37				.46	.57			.75				.21	.86							.05							3.29
Louisburg‖	Tar				.05	.40				.60					.50	.05				.58	.08		.16					T.				T.	2.42
Lumberton‖	Lumber	.03	T.		T.	.09	.74	.05	.25	.34	.11		.12		.12	.36		.60	T.	.77	.07	.03	.19						T.			.04	3.91
Manteo	Roanoke Sound					2.72		.10			.04	1.48			.42			.08	.44									.04	1.42		.94		7.68
Marion	Santee	.05	.02	.01	.37	1.59	.16	.76	.72	1.18	.04	.30	.01	.29		.24		.08	.01	T.							T.	.03	.14		.01	.09	6.10
Moncure‖	Cape Fear				.08	.12		.04	.49	.03			.64		.55	1.67	.02		.46	.05		.23	.05					.27					4.70
Monroe	Pedee	1.55		.17		.30		T.	.52	.15		.17		.45				T.	.33	.16		T.			.70		.36	T.					4.86
Morganton	Santee	T.	.05	.05	T.	.22	.03	.08	.15	.38				.10		.02		.01		T.			.10					.54	.20				1.93
Mount Airy	Pedee			.17	.15	.24	.04	.47	.09	.45	T.	T.	.12	.24	1.97	.67	.42	.84	.03				.10	.05				T.	.04		T.		6.09
Mount Holly‖	Santee	.28	.04		.16		.38	T.	.04	.60	.26				.06				.76	.26						18		.16	.06	.24			3.48
Nashville‖	Tar				.07	.60		.04	.30				.16		2.20	T.			1.40	.06		.05	.36						T.	T.	.06	.13	5.43
Newbern‖	Neuse	.08				.12	.63	T.	.50	.52					.85	.72				.15	.22		.08			.05			1.07			.20	4.59
Pinehurst	Lumber			T.		.18	.50				.02	.60			1.18			.15	.05	.10									.40		.24		3.42
Pittsboro	Cape Fear																																
Raleigh	Neuse			.06	.22		.15	1.20	T.			T.		2.31	.53	T.		.30	.14	.01		.26					.03	T.			.44		5.65
Ramseur	Cape Fear	.67			.75	.07		.50		.26	.06	.02		.79	1.05	.11		.66		.06			.31				.63	.17	.23		.05		5.79
Randleman‖	do					.42		.05	.25	.18	.09				2.12	.16			.30	.02								1.48		.02		.80	5.89
Reidsville‖	do				.36	.13	.04	.07		.59	.09			1.20	.49	.55	.67		.05	.09								T.				.23	4.56
Rock House	Savannah	1.07	.41	1.45	.50	.62	.60	T.		1.69	.42	.11	.15	.04	.43	.04	.04	.09	T.			T.		T.	.13		.13	.06	.01		.48		8.47
Rockingham	Pedee					1.15		.05	.65		.80			.25	.60				.23		.50						.18						4.41
Rocky Mount‖	Tar																																
Roxboro	Roanoke				.33	.62		.09	.03	.10	.06				.14			.02	.30	.40						.80							2.89
Salem	Pedee						.53			.30		.50		.38	1.18																.22		3.11
Salisbury‖	do						.16		.05	.70	.35				.32	.48			.40		.06							.30	.09				2.91
Saxon‖	Roanoke				.21			.51	.80				.27	.03	1.65	.05	.08	.12						.01	.01	.03	.02	T.	T.		.15		3.94
Scotland Neck	Tar				.06	.80		.12				.20		1.86	.16				.71			.12									.54		4.57
Selma	Neuse																																
Settle	Pedee		T.	T.	.07	.15	T.	.75	.05	.23	.10			.20	1.52	.20		.40											.07				3.74
Sloan	Cape Fear			T.	T.	.12	.09	.56	T.						1.01			T.	.45	.24	.04			T.				.55			T.		3.06
Snow Hill	Neuse					.04		.22	1.18	.68	.04	1.25		.43	.39				.85	.13		1.12						.09		.72	.06		7.20
Southern Pines	Cape Fear																																
Southport	do	.77			.20	.95	.18	.17	.07				.05		.08	.23			.15	1.29	.03	.16						.04	.06		T.	.77	5.20
Statesville	Pedee			.12	.85	.33	.03	.11		.35			.05	.82	.02	.10		1.80	T.										.25				4.83
Tarboro‖	Tar				T.	.85			.17	.18		T.	.90		1.25		T.		1.30	.05		.56	.18					.17			.15		5.76
Troy	Pedee																																
Weldon‖	Roanoke					.31			.51	.01					.20	.28			.14	.13	.03		.01					.64	.04			.65	2.95
Whiteville	Waccamaw																																
Willard	Cape Fear				.05	.88	.12	.11	.51						1.31			.32	1.00	.34		.06		T.				.61			.40		5.71
Wilmington	do	.61		.03	.14	.12	.37		.15	.34	.16		.05		.55	1.08	.19	T.	1.31	1.03	T.	.12						.50		T.	.24		6.99
Yanceyville	Roanoke		.55			.35		.41						.80	.70			.08												.16			3.03
South Carolina.																																	
Aiken	Edisto	.35			.60				1.01										1.67										.75			1.25	5.63
Allendale‖	Savannah	.55	.40	.22	.10	.86													.30		50.	1.50			.55								4.98
Anderson	do	.08	1.77	.35	.04	.10	.50	.15	.02		.17			.06	.16		.18	1.06	.02	.03							.53						5.22
Batesburg‖	Edisto	.37	.42	.52	.55	.15	.08		.09	.05							.21	.25	.18	2.49	.04	.10				28				.23			6.01
Blackville‖	Edisto	.05	.49	.25	.05	1.15				.15	T.	.45		.07	T.	.88	.07	T.	.27	.67	.10	1.78	.09	T.	.36	.01			.25	.13		.32	7.59
Blairs‖	Broad	.06		.20	.15	.02	.15		.30						.84	.40	.60		1.42														4.14
Bowman	Edisto	.60	T.	T.	.88		.58	.29	1.75		T.				T.	.12	T.	1.35	.89	.26		.94	.62		.31		.28	.18			.15		9.20
Calhoun Falls‖	Savannah	1.30	.70					.45	.95					1.30					.85														5.55
Camden	Wateree	1.50				.12		.08	.02	2.70				.38		1.30	.28	.80		2.66	.08	.06												9.98
Catawba‖	Catawba	.70	.10	.26	.02		.08			.90			.16			1.48				.78	.02							.26	.09	.28			5.13
Chappells‖	Saluda	1.30	.20	.30	.62	.70	.52	.50		.16			.40					.80	.70	.16														6.36
Charleston	Ocean	T.		T.	.10		.01	.08	.55	.74						.07		.01	.20	.14	1.79	.01						T.			.96	.02		4.68
Cheraw‖	Pedee	.05		.02	T.	.25	.03	T.	.63	.98	.02	.03			.07	.96			.03	.21		.16						.32	.07				3.83

TABLE 2.—*Daily precipitation for July, 1910. District No. 2*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
South Carolina—Cont'd.																																	
Clemson College	Savannah	.34		.80	.60	.10	.53	.10	.16		.58			T.	.77	.09				.07												4.14
Columbia	Congaree	T.	.06	.36	.17		.13	.05	T.				.03	1.69	.18	.21	.14	.01	1.30	.14	T.	.68		T.	.12			T.				5.25
Conway‖	Waccamaw	T.				1.00		T.	.83	.74	T.	.11		T.		1.70	1.96	.05	.12	.92	.74	.38							T.				8.55
Darlington‖	Pedee																																
Dillon	Little Pedee	.03			.03	.22	.31	.28	.73	.36		T.			.42		.45		1.47	1.21	T.	.24	.05	.38				T.				.08	6.26
Effingham‖	Lynches	T.	T.			.15			.10	.15	.25					.25		.20		1.25	.20	.15	.40		.40				T.				3.50
Ferguson‖	Santee	.07	.16			.56			.49	1.01						.83			.86		.48								.39			.73	5.58
Florence‖	Pedee	.12	.28		T.	.20		T.	.10	1.22					.20	.92	.14	.26		1.80	.20	.26	.12		.06	.14							6.02
Georgetown	Ocean			T.	T.		T.			T.			.32		.32			T.	T.		1.94	.53					T.	.58			T.		3.69
Greenville‖	Saluda	.05	.28	.15	.25		.72	.60		T.	.39	T.		.08	T.	.60	.09	T.	T.	.06							T.		.30	.16			3.73
Greenwood‖	...do	.08	.91	1.18	.34	.08	.21		.65	.08						.08			.28	1.65						.42			.10				5.46
Heath Springs	Wateree		.20	.07		.01	T.	.50	.08	.02			.63	1.07	.95	.02	.25	.01	1.70	.02		.18			.17			T.	.14				5.42
Jacksonboro	Edisto	.24		.62	.26		.53	T.	.07	2.47		.03		.45	T.	.28	.22		.09	1.75	T.		T.						.58		.13	.50	8.22
Kingstree‖	Black			.24		.40		.15	.22	.06				T.		1.60	2.35		.55	.56	.23	.30	.34										7.00
Liberty	Savannah	.20	.30	.30	.20	.80	.24	1.10	.01	.02			T.	T.	.40	.10	T.	.80	.45								.40		.20		.25		5.77
Little Mountain	Saluda	.03	.35	.25	.40			.13	.12				T.		.76	.12		.20		.45	T.	T.				T.			.04				2.85
Meriwether	Savannah																																
Newberry	Saluda	.34	.14	.60	.12		.26								.21	.24	.59	T.	.12	.58		T.		T.	.42				.04				3.66
Pelzer‖	...do	.16	.18	.26	.30	.06	.20	.48											.78	.54								.02				T.	2.98
Pinopolis	Cooper																																
St. George‖	Edisto	.20	1.20		.23	.29		.15	.22	.63		.28						.33			.96	.45	1.19			.23	.06		.48	.25			.07	7.24
St. Matthews‖	Santee	1.07	.20		.23			.20	.49	.01	.76							.19		.35	1.70	.20	.17										5.5
Saluda	Saluda	.20	.11	1.00	.50		.45	.15		.08				.25			.02		2.10	.23	.10			.12	.37								5.68
Santuc	Broad	.47	.12	.76	.04		.66	.30	T.	T.		.01		.44	.31	1.02		T.		.96	.21		T.		.21			.67		T.	.86		6.44
Smith Mills‖	Pedee		.47			.37			.23	.62						.14	.34		.70	1.15	.56	.60	.11						.73				6.02
Society Hill	...do	.18		.17	.10	.28						.48		.25	1.88	.15	.17	.10	.94	.12	.05			.05	.28						.73		5.93
Spartanburg‖	Broad	.20	.20	.27	.12		.65	.15			.26				.60	.05	.40			.62								.02	.15		T.		3.69
Summerville	Ashley	.92	.03	.03	.65		.17	.15	.02	2.07	1.20		.01			.17	.12	T.	.14	.95	.58	.19	.08	.09			.08	T.	.40		T.	.02	8.07
Trenton	Edisto	.31	.35	.46	.20				.11			.84					.78	.44	1.98	.41					.30				.93				7.11
Trial	Santee	.16		T.	1.00			.17	1.45		T.			.32	.11		.20		1.79	.45	.21	.33	.30	.13		.25				1.30			8.17
Walterboro	Ashepoo	.56		.72		.65	1.19	1.97	.87	.09		.01			.30		.39			.99	.97	.31	.06	.04			T.		1.03		.22		10.46
Winnsboro	Broad	.15	.18	.21	T.	T.				T.	.30	.25	.15	2.50	.20	1.15			.20														5.29
Winthrop College	Catawba	.25	.06	.04	T.	T.	.08		.09	1.47		.62		.68	.03	.50	.24	T.	1.20	.62		T.			T.				T.				5.88
Yemassee‖	Combahee	1.09	.07	.09	.04	T.		.30	.34	1.31	.13	.97					.82		.22	.62	1.20	.77		.05	.10			.74				.21	9.07
Georgia.																																	
Abbeville‖	Ocmulgee	.20	T.	.45		.26		.06	T.			.14	1.48					T.	.13	.81	.12			1.28	.16	.20			T.			.48	5.77
Adairsville‖	Coosa	.29		.53	.45	.47	.04	.11	.06	.16	.02			.03			.09		.09						.05	.07					.89	.04	3.39
Albany‖	Flint	.90	.18	.04	1.02	.31			.02	.51	.06		.01		.18				.04	.27	.20			.32	.12								5.08
Allapaha‖	Allapaha	.87		.40	.49				.93		.69		.26		.32			.04	.08	.90	1.92				.34			1.30			.37	.43	9.34
Americus‖	Flint	.33		.75	.55	.20	.20			.25			.40							.30						.65							3.63
Athens‖	Oconee	.37	.16	1.20	.07	.93	.21	.27	.30	.92	.01			T.	.17	.05	.13		.15	1.31	.67								.32				7.24
Atlanta	Chattahoochee	.72	.81	.11	.23		.21	.42	.07	.35		T.	T.	T.	.20		T.	T.		T.		T.		.11	T.		T.	T.	.01	.01	T.		3.25
Augusta	Savannah	.33	.40	.37	.12			.07	1.27	T.	T.	.05		.06	.52	.39	.24	.13	.48	.10	T.	.05	T.	.02	.11		T.					T.	4.71
Bainbridge‖	Flint	1.70	.70	.19	.30	.03	.05	.07	.23		.42		.15	.11			.05	T.	.03	.17	.13		.23	.41	.15	.82			.05			.26	6.25
Barnesville	...do	.41	.22	1.09	.44			.34	.03	.20		.20	.64	.28	.06		.26	.25	.89	.25					.60			.01					6.17
Blakely	Chattahoochee				.64	.80	.86		T.			T.				T.	.94	.16	.36	.53			.10	1.35	1.48		T.	T.				.39	7.61
Butler‖	Flint	.39		.50	.42	.60			.20				.38						.77		.47		.05		.95	.93							5.66
Camak‖	Savannah	.83	.15	.43	.34	.25			.15	1.32			1.52						.08	.45	1.47					.41							7.40
Canton‖	Coosa	.48	.52	T.	.70	1.40	.50		.12	.30							T.		.10		.98					T.			.67				5.77
Carlton‖	Savannah	.18	.58	.44		2.16	.27	.10		.47										.58	.36				.14		.15						5.43
Clayton	Savannah	.60	2.00			.35	T.	.64	T.	T.		.74		.56	.04		T.		.67	.08				T.	T.		.50	T.	T.		.16		6.32
Columbus‖	Chattahoochee	.14	.02	1.27	.53	.04	.17		.21	.15			.30						.23	1.23	.02	T.			.04	T.			.47			.18	5.00
Covington‖	Ocmulgee	2.10	.90	.60	.30	.35		.35	.80	.10									.35							.20							6.05
Cuthbert‖	Chattahoochee			.55	1.00		.07	.19	.35							.45		.60	.21	.70					.25	.25		.05				.22	4.89
Dahlonega	...do	.27	.82	.19	.28	1.43	.74	.27	.28	.10			.05	.02		.21	.12	.12	.01		.04					.10	.05			.03				5.13
Diamond	Tennessee		.44	.15	.82	.26	.95	.09	.24	.02	T.	.07	.45	.08	.72	T.	.20	.19	T.	.36		T.	.11	.02					T.	.07			5.24
Dublin‖	Oconee	.14	.28	T.	.28	.30			.28	T.			.08			.52			.52		.16			.30	T.	.10					.62	3.58
Dudley	...do	.64	.21	.16	.21			T.	T.			.82		.12	1.10	T.				T.			.38	.22				.35		.81			5.02
Eastman‖	Ocmulgee	.28	.14	.06	.42	.26			.38	.46		T.	.53						.44	T.	.09			.28	.03	.11			.52			.81	4.81
Eatonton	Oconee	.57	.35	.90	.98				.12	.10		.19						.31		.36				.11									3.99
Elberton	Savannah	.65	.35	.62	.86	.20	.10	.97	T.									.16		.30	.60				.08								4.89
Experiment	Chattahoochee	.28	.37	.04	.51			.08	.76			.16	T.	T.	T.			.60	.20		1.30			.17									4.47
Fort Gaines‖	...do	1.70	.05	.40	1.30	.75				.05			.95	.25					.50	.25	.36		.05		.43	.85						.10	6.99
Gainesville‖	...do	.45	.05	.12	.12	.16	.56	1.00		.14								.18	.05						.15					.05	.02		3.05
Gillsville	Oconee	.23	.07	.77		.34	.05	.75	.17	.26		T.			.23	.65	T.	.07									T.	T.	.08	T.			3.67
Glennville‖	Altamaha	.38	.05	.02	T.			.27	.02	.14			T.				.03	.61		1.07			.03	T.	.07	T.					.45	.77	3.91
Gore	Coosa	.39	.78	1.24	.11	.25	1.43	.10	.03	.55		.20		.01	.01	.90		.06			.45								.01	T.		.37		6.89
Greensboro‖	Oconee	1.20	.42	.47	.32	.72				.70	.62		.26			.28			.93	.08					.08				.12				6.20
Griffin‖	Chattahoochee	.93	.85	1.46	.10	.45			.68	.35	T.		.30				.40		.12	1.95	T.				.15					T.	T.		7.68
Harrison	Ogeechee	.16	.16	.58	1.22			.15	.15	.10	.05	1.04		.09				.23		.15			.21	.10	.27								4.66
Hartwell	Savannah	1.02	.66		.18	.41				.34	.16			.32	.11					24	1.03	.17											4.64
Hawkinsville‖	Ocmulgee	.44	T.	.40	.18	.42			.32	.16		.10	.20						.40	.02						T.						.44	3.08
Helena	...do	.71	.29	.35	.01			.13	.11	.05	T.	.39	.02	.20		T.	.02	.03	.03	.21	T.		.86	.10	.05	T.	.09	T.			.39	.28	4.32
Lafayette	Tennessee	.51	.64			.42	.54	.08	.07	.17				.51	.74		.83		.03	T.													4.54
Lisbon	Savannah	.38	.25	1.55	.01	.05	.33	.15	.16	.08			.05	.11			1.35	.02	.09	3.72			.02			.47	.01		.05					8.85
Lost Mountain	Chattahoochee	.80	.65	.11	.07	.20	.44	.65	.45	.10				.16	.10			.66		T.				.12	.05					T.		T.		3.96
Louisville	Ogeechee	.27		.87	1.09				1.32	.25				.80	.60			.14	.13	2.07			.19	.25	.15								8.13
Lumber City‖	Ocmulgee	.04	.40	.04	.04				.04	.02	T.		T.		T.		T.	.02	.02	.06	1.40			.64	.44	.12		.68	.88			1.24	6.08
Lumpkin‖	Chattahoochee		1.09	1.16	.55			.22		.09		.11		T.		T.	T.	.38	.43	.06			.05	T.	.10			T.			.24	.29	4.70
Macon	Ocmulgee	.12	.26	.80	.65		.24				.27	.03				.04	.01	.46	1.03	.01					.02								3.94
Marshallville‖	Flint	.26	.06	.92	1.10	.98		.25	.18	T.		.35	.31	T.	T.		T.	T.	1.52	.10	T.		.05	.02	1.20	.02		T.			T.	T.	7.32
Mauzy	Suwanee	.54	.08	.93	.65						T.	.04			.37	.42		1.35			.04			.10	.15			.65			.04	1.20	6.56
Milledgeville‖	Oconee	1.88	.16	.26	1.12	1.18		T.	.08				.15		.11		.04	.25	.45	.01		T.	T.			.28							5.97
Millen‖	Ogeechee	.50	.35			.30											.25		.15	.10	.15			.14		.10							2.04
Montezuma‖	Flint	.26	.16		.26	1.04	.54		.08		.04		.12				.08		.12		.28			.06		1.12							4.16
Monticello‖	Ocmulgee	1.93		.96	.21	1.53			.32	.33	.06					.25		.25	.12	.25					.53	.04							6.76
Morgan	Flint	.54			1.05	.04		.48	.32		.08						.25	.50	.60	.55			.97	.60	.27		.20					.60	7.05
Newnan‖	Chattahoochee	.80	1.50	.55	.45	1.35		.10							.26	.30			1.00	.04					.37								6.72
Norcross‖	...do	.86	.42	.42	.14	.30	.14	.20	T.	.02	.02					.02	.66	.10	.02		.02				.30				.18		.02		3.84
Point Peter	Savannah	.50	.35	.26	.67		.52	.07	.80	.17		.24				.40	.15		.27	.82				.75	.05								6.02
Poulan	Suwanee	.16	.26	.79	.24			.01		.25		1.12		.04				.12	.04	.90			.78	.61	.06		.06	.52			.08	2.78	8.22
Putnam	Flint	.20	.75		1.00			.35				.52			.90										.88								4.60
Quitman‖	Suwanee	2.90	.33	.15	.26								.21		.75		.39	.68	.09	.45	.71			.55	.93				T.			.24	8.64
Ramsey	Coosa	.18	1.58	.21	.30	.43	.74	.90	T.	.32	.80	.05	T.	.27	.08	.18	.04	.42		T.	.74						.50	.21		.03	T.		7.98
Resaca‖	...do	.20	.90	.28	T.	.28	.28		.08	.50	.26						.20							T.	T.		.12			1.10			4.20
Rome‖	...do	.86	.36	.18	.26	.24	.28	.36	.04	.30	.04						T.	.22	.04		T.				T.				T.	.04	.12	.30	3.64
St. George‖	St. Marys	.04	.27	.46	.49		.30	T.			.30		T.								.37		.89	.49	.15	.20		.27	.69	.05	T.	.97	5.94
St. Marys	...do																																
Savannah	Savannah	.88	T.	.20	T.		.22			.63	T.				.41	.04	.23	T.	1.78	.53	T.	T.	.26	T.		.59	T.	T.		.30	.01		6.08
Statesboro‖	Ogeechee	.07	T.	T.	.01			.20	.17	.02	.02	T			.05		.30	.38	.77	T.		1.11	.13	T.		T.				.23			3.46
Talbotton	Chattahoochee	.31	.38	.16	.40				.06		.04	.30					.15	.41	.46	.17	.02			.77	.40			.43	.02				4.48
Tallapoosa‖	Coosa	1.65	.25	.38	.19	.04	.21	.29	T.	.47			.73		.54			.35	.05						.05			T.				T.	5.20
Thomasville	Ocklockonee	.42	.12	.05		.03				.01	.55	.02	.21	.01			.24	.10	.08	.33		T.	.04	.01	.29		T.	.15			1.04	1.01	4.71
Toccoa‖	Savannah	.25	.40	.60	2.00	.04	.55	.90		.30	.12		.10		.30	.15	.75			.30									.01	.04				6.81

TABLE 2.—*Daily precipitation for July, 1910. District No. 2*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Georgia—Cont'd.																															
Valdosta	Suwanee	.42			.30		.80				T.								1.35	.20	1.00				.30	.95	T.	.20				.85	6.37
Valona	Ogeechee	.12	.40	.16							.35								20	8.60			.40				T.	.25	.35	2.60	.52	.10	14.05
Washington	Savannah	.29	.76	.63	.82	.32				.48	.18		.58					.20	.29	.11	1.43		T.		1.23	.08							7.40
Waycross	Satilla	.02	.14	.01	.25						.46	.10	.01	.05					.04	.16	.45	2.00			1.45	.58	.17					.07	5.96
Waynesboro	Savannah	1.90	.19	.22	.10	.25			T.	.24	.10		T.								.40	.04	T.		.10	.14	.13			T.			3.81
West Point	Chattahoochee	.64	.64	.40	.60	.24			.88	.10			.34					T.	.44	1.42	.16				.08	.04						.18	6.16
Woodbury	Flint	.46		.30	.65	.30		.29												2.44	.45				.76								5.65
Florida.																															
Apalachicola	Coast	.90	.62																.43		2.40	1.20	1.10					T.	.52	T.	1.83	.11	8.60
Arcadia	Peace Creek	T.	.45			.87	.64	.11	.99	1.25	.04	.16	.14		.35			.05		.17	.44	.08	.01	.43	.11	.11	.38	.08	.92	.01	.55	.05	7.79
Archer	Waccasassa	.50	.60	.40	.30			.75	.25	.10	.05			.10	.05	.08		.20		.35	.40			.25	.20		.60	.70		.40	.50	1.50	8.28
Avon Park	Kissimmee	.27	.26	.03		.98	.09	.47		.13	.02	.14	.12	T.	2.06	.02				.60	1.03	.14		.85	.76	T.		.47	.08	.52		T.	9.04
Bartow	Peace Creek																															
Blountstown	Apalachicola																															
Bonifay	Choctawhatchee	T.	.54	1.79				.32			T.	T.	T.	.15		T.	T.	.68	.50				T.		T.	T.	T.						3.98
Brooksville	Withlacoochee	.41	.46				.12	.16			.76									1.19	.42	.23	.82	.12		.13						.93	5.75
Carrabelle	Coast																															
Cedar Keys	do	.70	.50									.80		1.00	.05				.16	.14	.31		1.66	.10					.17	.18	.28	.23	6.28
Clermont	Lake	.28	1.75		1.20			.40		.93		1.00			.25	.14					.20	.10	.10	.90					T.	.25		3.30	10.80
De Funiak Springs	Choctawhatchee	1.00	1.15	2.00	.90	T.			.80	.20		.50		T.	T.	.70	1.70	1.30			1.00			1.48	.12	T.					1.45	.05	14.35
De Land	St. Johns	.31	.23	.01	.01	.76	.01		.76	.76		.03	.02		T.				.01	1.09	.03	.09	.06	1.47	T.	.09	.14	.33	.10		T.	.43	6.76
Eustis	Lake	.90	.98		.12	.07	.03	.07		1.33	.18	.10		.05	.37	1.63			.13	.64		.03	.55	1.28	.26	2.14	.02				14	1.71	12.73
Federal Point	St. Johns	.84	.40	.01	.70			.55	.47				.08		.10			T.	T.	.23		.08	1.27		.10	T.		.22	.05		13	2.05	7.28
Fenholloway	Fenholloway			.90						.40		.40		.35				1.70	.10	1.20										2.50	1.50	.45	9.50
Fernandina	Coast	.08	.03	.26	.02				.18	T.										.59	.03		.12	.44	.03			.33		.04	.02		2.17
Fort Meade	Peace Creek	.41	.50		T.	.09		T.	.44	.05		.07	T.		1.86	.15	T.		.10		1.29	.15	T.		.23	.26		.92				1.62	8.14
Fort Myers	Caloosahatchee	T.	T.	.35	.48	T.		T.	.01	.43	.76	.36	T.	.22	.72	T.	.50	.08		1.05	.73	.10		1.09	T.	.06	1.44	T.	.44	T.	T.	.45	9.27
Fort Pierce	Indian	.50		.03						.46	.11	.12	.20						.72	1.59	1.64	.10						.78		.01	.02	6.28
Gainesville	Lake	T.	.56		.28		.20			.06	.90	.24	.69	.02	.09			.04	.15	.26	.36		.21	.02	.33	.52	.02	.08	.71	.30	.10	.75	6.89
Grasmere	do	.10	.06		.16		.15	.07		1.30	.31	.09	T.	T.	.40		.32		.02	.40		.13	.14	.83	.16	.30		.02				1.02	5.98
Hilliard	Nassau	.18		.50			.12	T.	1.10	T.										.60			1.08	.50				79	T.	T.	.78		5.65
Homestead	Coast								.50	.60	.30	.13	.20	.20					.12	.10	.09	.02	.08			.17	.15	.04	.81		1.23		4.74
Huntington	St. Johns																															
Hypoluxo	Lake		.07		.41					.15	.10									1.78	.35	.08		.68	*	*	*	*	*	*	*	1.68	5.30
Inverness	Withlacoochee	.45	.05		.36			.29	.10	.10	.65	.08	1.15	.20					1.27	1.44		1.24	1.22							2.60	1.69	.97	13.86
Jacksonville	St. Johns	T.	.06	.17			T.	.89	.26	.56				T.				.01	T.	.49		.22	.01			.24	T.	.59	.31	.04	.25	2.03	6.13
Jasper	Suwanee	1.34			.50			.99			.60				.40				1.24					2.00				36			.78	.25	8.52
Johnstown	do	1.07	1.20	.12	.05				.69		.22	.55	.03			.23			11	.16			.07		1.15	.10	.27	.05	.12	.40	1.04	7.63
Jupiter	Coast	.03									.22				.45				.36	.53	1.39	.01			.02			13	1.22			.63	4.99
Key West	do	.13					.06	.10		T.	.04		.26	.39	T.		T.			.55	.54			T.	.24	.01		.14	.11				2.57
Kissimmee	Kissimmee	.54	1.90	.80	1.39	.33				2.18			.11		T.	.23				.08	T.	.10	T.	.35	.19	.08		.40	.81			1.03	10.52
Lake City	Suwanee	.30	.55	.30	.42		T.	1.20	T.	.06	T.	T.	1.15						T.	.12	.69		T.	.04	.12	1.20	T.		.90		.88	.30	8.23
Live Oak	do	.35	1.75	.50	1.25						.66			.15			1.49	.13		.27	.57			.11	.09		.20		5.30		.65	1.32	14.79
Macclenny	St. Marys	.80		.97							1.35			.48								1.70	2.65						*	*	*	2.00	9.95
Madison	Suwanee	.28	.23	.92	.20						.09	.04	.07	.08	.01				.06	.48	.21			.13	.24	.01			1.88			.37	5.30
Malabar	Indian	.40		.27	.11										.35			.10	.30	.21	.50	.78							1.81			.22	5.05
Manatee	Manatee																															
Marianna	Apalachicola	4.08	.71	.06	2.26					T.		T.		.05		.31		.07	.44	.02	.81	.30			1.75	.03			.30			.01	8.20
Merritts Island	Indian			1.27	.01											.02			T.		.18	.29	.40	T.		.70	T.	.39	.08		.01	.57	3.92
Miami	Coast					T.	T.	T.		T.	.25		T.	.10				T.	.33	.10	.55	.50	.32		T.	.14	1.32	T.	.13	.28			1.10	5.12
Miami (Subtrop. Gar.)	do																															
Middleburg	St. Johns	.50	.15			1.40		.40											.10	.25			1.00			.10		.80	.10		.35		5.15
Molino	Escambia	.45	.60	3.50								.48				.15	.15		.18	1.11			T.	.35	.66							7.63
Monticello	Aucilla	1.25	.10									.70																			.75		2.80
Mount Pleasant	Apalachicola	1.65	.45	.38	.93	1.10					T.	.40	.10	.03		.28	.10	.40	.50	.02			T.	.50	2.15	.92		.25			.05	.22	10.73
Newport	St. Marks	.40		1.00									1.23	T.	1.51			T.	.62				1.51	T.					T.		.33	.20	6.80
New Smyrna	Coast	.30	.54	.22	.32	.03															.40	.17	.45	.30	.34	.47				2.30		.48	6.32
Ocala	St. Johns	T.	.47	.13		.10	.90	T.	T.	.05	1.45	T.	.42		.23					T.	2.30	.42		.28		1.04				.25	T.	T.	8.04
Orange City	do	1.19	.26	.42	.18	.17				.03	1.38	.18	.07							.39	.73		.25	.10	.71		1.23	.25	.28			.26	8.08
Orlando	do	.35	.85	.18	.12	1.85	.10			.60	.35	.18	.10		.07			.04	.11	.14	T.	1.70	.68	T.	.10	T.		.30	1.36	T.		.53	9.71
Pensacola	Coast	1.19	.20	.79				.33		.01			.54			.74	.72	.65	.61	.54	.07	.01		1.27	.17			.10			.04	7.98
Plant City	Hillsboro	.36	.11		.80	.36			.75		1.85	.12			.95	1.50	2.00			.97	1.14	.60	.57	.46		.10		2.10		.62	.26	15.62
Rockledge	Indian	.64	T.	.62				T.	.20	T.		.08		.09	.26				.09	.30	.09	T.	T.						.37		.80	3.54
Rockwell	Withlacoochee	.20					.40	T.		T.	.40	T.		.75	T.	T.	T.		.72	.43	.80	T.	2.00	T.		T.	.30	T.	T.		.70		6.70
St. Andrew	Coast	1.32	.46	.02												.12	.18	.83	.03			.46	.34	.50	.32	.02		.08			.03	4.71
St. Augustine	do	.60	.60	.12	.02				.18											.05			.18	.05				.32	.23	.75	T.	.22	3.32
Sand Key	do																															
St. Leo	Withlacoochee	.14	.28	.02	.30	1.03	.04	.91		.05	.12	.10	T.	.12	.10	.03			.12	.62	.74	1.26	.76		T.	.27	T.	.07	.02	.06		.89	8.65
Satsuma Heights	St. Johns	.74	.20	.04		.14		.08	.03	.20	.01				T.	.33		.04	T.	.02	.05	.47	.34	.11				.37	.49		1.07	2.20	6.93
Switzerland	do		.12	.02											14			.01	.01	.14		1.47	1.61			1.10	.03	.21			.90	.50	6.26
Tallahassee	Ocklocknee	1.60	.78	.52	.75			.10	.08				.20	.06	T.		.15	.03	T.	.24	T.			.12	T.	.18			.18			T.	4.99
Tampa	Coast						.17	1.76	.53	.01	.20	.03	.38	.18		.29			.09	.74	.24	1.65	1.28	T.	.12	.50	.05	.10	.01		.44	.96	9.73
Tarpon Springs	do					1.00	.04				.10	1.04	.19		.04				.32	.60	.50	.65	.09	.01	.82	.70		.16	.26	.03		1.78	7.73
Titusville	Indian																															
Wausau	Choctawhatchee		1.20	.80	.20		2.00	.13		2.01	.62	.31	.42	T.	1.22	.81	1.44	T.	.03	.22	T.		.32	.41	T.				.72	.30	.80	.74	14.70
Alabama.																																
Alaga	Chattahoochee	1.78	.68	.04	.98	.42			.48	.02	T.		T.	T.	.92		.38	.24	.12	1.68	.06		T.		1.04	.26			T.				9.10
Anniston	Coosa	.49	.93	.77	.13	.13	.01	.07	.21	.13	T.			.15	T.		.17	.81	T.						T.		.15	T.		T.			4.15
Ashville	do	.10	.65	.27	.11	.30	.67	.03	.08	.88		.13	.26	.04			.12		T.						.34	T.		T.			.03	.03	4.04
Auburn	Tallapoosa	1.30	.67	.47				1.34											.34												.25	.04	4.41
Benton	Alabama	.62	.32	.37	.19		.09	.18	T.			.02	.16			.03		.16	.14	1.10					.27	1.77	T.						5.42
Bermuda	Escambia	.11	1.11	.41	.75		.27	.05	.73		T.			.81	.02	T.		.03	.39	T.					2.40	3.75	.41				T.	.02	11.26
Birmingham	Black Warrior	.97	1.59	1.78	.41	.42	.16	.02	.05	.54	.05	.18		1.04			.12	.47	T.						.02	2.53					.45		10.80
Calera	Coosa	.83		.82	.38	.85	.25	.75	.50	.40		.25	.20			.40	.28		.20													.09	6.20
Camp Hill	Tallapoosa	1.40	.76	2.00	1.12		T.	.45	.08	T.		1.25						.65						.40	.20		.10				.50		8.91
Cedar Bluff	Coosa	.14	.50	1.04	.10	.40	.64											.30															3.12
Citronelle	Alabama	.18	.25	.26	.63	.03	T.	.54	.26	.20	.14	.34	.54	.01				.35	.85	.01	.02			.70	.09	.15						1.05	6.60
Clanton	Coosa	.41	1.05	1.70	.60	.18	.20	1.10	1.22	.26		.03			.10	.06		.21	.56	.06							.77					.03	8.54
Cochrane	Tombigbee				1.30	.30	.30	.36	.22	.10					.14				.22						.60								3.54
Cordova	Black Warrior	.15	.78	.35	.71	.42	.35	.10	.18	.10	.05		.80	.07			.55	.25							.30		T.			1.60			6.76
Cullman	do	.04	.49	.28	.05	1.12	.80	.04	.04	.04		.20	.06	.07	.70		.18	.32	.43	.02				T.	.99		.10			.20			6.17
Dadeville	Tallapoosa	.94	.65	.30	1.65	.22	.04	T.	.65	.20								1.02	.13						1.07							.10	6.97
Daphne	Coast	.40	.57	.32	.38	T.			T.	1.15		.83	.17	.36	T.	.40	.30	1.40	.05		.40	.12		.65	3.20	T.					1.40	12.10
Demopolis	Tombigbee	.24	.52	.56	1.16	.20	.46	.14	.10	.50			.72	.20			.22		.22	.80				.48	.62	.22							7.36
Eufaula	Chattahoochee	.08	.02	.72	2.40	.50	T.	.04	1.66	.16	T.		.04	.04				.24	.10	1.74	1.46			.09	.07	T.	T.		.04			.20	9.90
Evergreen	Escambia	.20	.10		2.10	.40	.10	.15	.08	.06			.60	.20			.10	.41	.08	.60					2.08	.75							8.01
Flomaton	do	.46	.65	.76	.62		T.	.47	.86		.24		.16	T.		.06	.12	1.28	.60	.09				.05	.33								6.73
Fort Deposit	do	.95	.10	.63	.86	1.21		.19		.70			.10	.73					.85	.45	T.			.05	3.60	.82							11.24
Gadsden	Coosa	.54	.26	.76	.10	.06	.80	.10	.02	.30	.52	.32			.24	.26		.12	.08														4.48
Goodwater	do	.20	.30	1.65	.50	.30	.20	.80	.10	.30	T.	T.		.65				T.								T.						.20	5.20
Greensboro	Black Warrior		1.34	1.28	.90	.12	.32	.61	T.	.20			.27				T.		.16	.16	T.			.45	2.43		.17						8.41
Greenville	Escambia		.42	.24	.45	.60												.20	.60	.73					.31	1.59							5.14
Hamilton	Tombigbee		1.00	.20	.40	.91	.82	.71	.98			.10		.35			.40		.81					.29	.10								7.07
Highland Home	Escambia	.54	1.36	.15	.50	.06	.07		.15		T.						.40	.49	.47					1.40	1.85	.16						.34	7.94

TABLE 2.—*Daily precipitation for July, 1910. District No. 2*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alabama—Cont'd.																																	
Livingston‖	Tombigbee	.06	1.10			.71	.15						1.01		.08				.10	.52				.34	.37	.30							4.74
Lock No. 4	Coosa	.18	.60	.80	.20	.52	.12		.58	.28			.10	.05				.42							.40						.05		4.30
Lucy	Chattahoochee	1.72	.39	.22	.38			.05		.09		.04	T.			.60	.49	.36	.84	1.83		.47		1.82	.54							.02	9.86
Maple Grove	Coosa	.73	.57	1.68	.32	.31	.57	T.	.08	.10	T.		T.	T.	T.	T.	.23	.05	T.					.05	T.		2.41			.05	T.		7.15
Mentone‖	do	.40		.42		T.	1.85	.20	.42	T.	.20		T.			.42	T.	.86	.10						T.			T.					4.87
Milstead‖	Tallapoosa	.36	1.00	.20		.20		.24	.52			.10						.24	.40	.30					.34								3.90
Mobile	Coast	.08	.08	2.58	.06		.06	5.27	.39			T.	.01	.05	T.	.02	.40	.56	T.		.02		T.	.10	.90	.03					T.	.82	11.70
Montgomery	Alabama	.36	.66	.21	.57	.39	.01	.43	.53								.47	1.16	1.06	.48			T.	.17	4.75						.02	T.	10.27
Newbern	Black Warrior	1.15	1.24	.04	.37	.27	.77	.07	.63			.09	.01		.01	.01	.03	.45	.40					.18	3.46	T.							9.12
Oneonta	do	.10	1.11	.50	.25	.35	.45	.15	.06	.35	.02	.45	.15	.67	.03		.50	.12	.07	.01					.50	.01	T.	.36			.10	.09	6.40
Opelika‖	Tallapoosa	.24	1.00	.47	2.25	.14		T.	1.21				1.95					.20	.13	T.				.06	.16							.43	8.24
Ozark‖	Coast			.75	.55	1.45				.15				.10				.25	.40	.72					1.20	.20							5.77
Prattville	Alabama	.39	.70	.42	.74	.02	.10	.45	.22								.41	.23	.19					.25	.82						T.	T.	4.94
Pushmataha‖	Tombigbee	.20	.60	.15	.25	.80	.31	.15	T.	.40		.07			T.			.07	.60	.02				.67	.03	.02	2.48						6.82
Selma‖	Alabama	.22	.24	.44	.16	.70		.98	.10	.60			T.	.12				.12	.34	.80				.08	1.28	1.52						.34	8.04
Spring Hill	Coast																																
Talladega	Coosa	.35	.02	2.30	.55	.85	.50			.01	.25			.75			T.	.35	.01											.55			6.49
Tallassee‖	Tallapoosa	.86	.37	1.07	.50	.35		.25	.60	.78				.46	.19				.16	.06	.07				.45	1.76				.15		.38	8.46
Thomasville‖	Tombigbee	.55	.26	2.25	.15	.27	.15	.72		.12	T.	.31	.33	.10				T.	.10	T.				.25	2.10	1.02	.25					.06	8.99
Troy	Escambia		.23	1.44	.56	.64		T.	.07			.05				.15	.20	.25						2.72	1.21	.06					T.	.09	7.67
Tuscaloosa‖	Black Warrior	.40	.54	.62	1.50	.56	.08	.77	.01	.13	.14	.08	.63		.82	T.		.09	.71	T.					.04	.96	T.						7.48
Tuskegee	Tallapoosa		.81	.73	.45		.30	.08	T.							.36		.29	.02						.04			.05			.11		3.24
Union Springs‖	do		.26	.39	.16	.26	.48	.11	.08	.15			.46	.06			.28	.36	1.02	.30	.13			.30	.45	.10						1.25	6.58
Uniontown	Black Warrior	.19	.71	.08	.14	.38	T.	T.	.11				.10					.28	.64				T.	.90	5.29	.36							9.18
Valley Head	Coosa	.42	.67	.52	T.	1.45	.09	.41	T.	T.				1.47	.22		.41	.54			T.			T.			T.				.58		6.78
Wetumpka‖	do		.20	.81	.27	1.45	.27			.53								.10	.29	.10					.99								5.01
Mississippi.																																	
Aberdeen‖	Tombigbee	3.46	T.	.41	.38	.10	.12	.68	.79	.59	T.	.60			.34	.04	T.	.24	T.						.36	T.						.30	8.41
Agricultural College	do	T.	T.	.68	.48	.43	.77	.26	1.05		.11	T.		T.	2.00		.09		.23						1.58	.05					.36	.58	8.67
Bay St. Louis	Coast	.22	.88	.64	.32			.13		T.			.35		.04			.82	.02	T.	.98	2.19	.08		.93	.07		T.					7.67
Biloxi	do	4.00	.18	1.27	.19	.09							.50			1.52	.04	.35		T.					10	.52							8.76
Booneville	Tombigbee	.92	.21	.01	2.96	1.55	2.28	.60	.04		.65		.07	.13					.41					T.	.02								9.85
Brookhaven‖	Pearl	.07	.11	.30	.28	1.38	.50	.07	.56	.05		.01	.05		.08				.35	.32	.03		.10	.20	.12		.79						5.37
Columbia‖	do	T.	1.02	.16	.54	.24	.10	.68	T.	.04		.04	1.30	1.34				T.	.38	.56				.08	.04	.50	.20	.22					7.44
Columbus‖	Tombigbee	T.		.97		.50	.85	.23	.18	.73		.70			.04			T.	.06	T.					.44	.30	.10					T.	5.10
Crystal Springs‖	Pearl	.14	1.20	.62	.51	.24	.05	.23	.24	.09			2.57		.03				1.55													.07	7.54
Edinburg	do	.05	.13	.26	.02	.24	.15	.07	.02				.05	.09	.02				.10				T.	T.	T.					T.		.20	1.40
Enterprise‖	Chickasawhay	1.00	.10		.58	.78	.22	.05	.04	.51	.05	.53			.55	.05			.50								.90	.25				.50	6.61
Fulton‖	Tombigbee	.04	.18	2.16	.16	1.62	1.00	2.24		.30				.12				.04	.82	.02					.06								8.76
Hattiesburg‖	Leaf																																
Hazlehurst‖	Pearl		1.00	.15	.88	.12		.48	.25			.24	.50		.32				.65														4.59
Hickory‖	Chickasawhay		.45	.50	.60			.25	.80				T.	1.25											.80								4.65
Jackson	Pearl	.07	.25	1.10	.24	.03	.54	.20	.20		.01	.82	.10					.07	.29	.09						.01						.75	4.77
Lake‖	do		.33	.05	.06	.05	T.	.24	.57	T.	T.	T.	.13	T.	.07			T.	.29	.47				T.	.15	T.							2.41
Lake Como	Leaf	T.		1.17	T.	.40	.12	.45	.80									.95						1.00		1.03							5.92
Laurel	do	.02	.01	1.35	.20	.66	.60	T.	.40	T.	.12	T.	.01		T.		T.	.10	.15					.23	.07	.25	T.				T.		4.17
Leakesville‖	Chickasawhay	.34	.54	.96	.50	.51	.09	1.38		.47			.20	.75					.25	.13	.20	.38	.04										6.74
Louisville	Pearl	.05	.30	.45	.02	.26	.34	.12			.05		.34	.06	.14		.67		.03				.09	.40	.48	1.17						.98	5.93
McNeill	do	1.47	.72	.25	.30		.15	T.	.15	.12	.44	.05		.80	.50			1.32	.23	.38	.37	T.	T.	.20	1.60	1.70	T.						10.75
Macon‖	Tombigbee	T.	.08	.56	T.	T.	T.	.16	T.	2.60		1.00	T.		.30			.57	.15	T.						.17		T.			T.		5.59
Magnolia	Pearl	.12	.61	.12	.06	.75	.60	T.	.21	.47	.03	1.05	T.	T.			T.	1.19						.09	.69	.53					.02		6.54
Meridian	Chickasawhay		.08	.60	.33	.42	.03	.35	.02		.46	.41	.35	1.26	.15	.08		.03	.07	T.			.07	.67	1.09	.76				.01	.10	T.	7.34
Merrill‖	Pascagoula	.10	.64	.30	.20	.20		2.00	1.32		.14		.10	.20	.10	.18			2.00				.34	.60	T.	.10	.60						9.12
Monticello	Pearl	.79	.03	.30	.73	.59	.60	.37	.32	.02	.69	.01	T.	.15	.03			.62						.02	.08	.04					.62		6.01
Okolona‖	Tombigbee	1.05	.25	1.55	.47	.75	.97	.10	.55	1.51		.04		.06		.60		.52	.20						T.	.08							9.70
Pascagoula	Coast																																
Pearlington	Pearl	.68	3.47	.66	.35					1.25	.03		.23		T.	.44		1.42		.58	T.	1.05	T.			T.							10.16
Porterville	Tombigbee	T.	.12	.17	.54	T.	.16		.90		T.		.05					T.	.22				.35		.34		.20					3.65
Shubuta‖	Chickasawhay	.44	.52	.06	.12	.50	.52	.40		.28			.06	.22					.18						.06	.40	.76						4.52
Waynesboro‖	do	.30	.10	.74	.60	.13	.48	.30		.90			T.	.75	T.	.10	T.		.20	T.				T.		.10	T.						5.25
Woodland	Tombigbee		.24	.33		1.21	.56	1.61	.30		.47		.36				.25		.35					1.40						.30	.50	7.88
Louisiana.																																	
Pearl River‖	Pearl	2.04	.24	.50	.64	.62				T.	T.	.20		T.	T.	.04	.28	.01	.90	.04	.30	.04	T.	.04		.18	T.	T.			.02			6.09

TABLE 3.—*Maximum and minimum temperatures at selected stations, July, 1910. District No. 2, South Atlantic and east Gulf States.*

Date.	Virginia.						North Carolina.													
	Lynchburg.		Norfolk.		Richmond.		Saxe.		Charlotte.		Edenton.		Fayetteville.		Hatteras.		Newbern.§§		Raleigh.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	91	66	87	68	93	68	91	68	93	69	93	72	93	71	84	73	91	68	93	71
2	88	68	84	72	88	72	86	67	88	72	88	72	88	72	84	76	90	71	90	72
3	84	72	81	73	86	74	86	72	84	72	84	72	86	72	84	76	91	72	90	72
4	81	71	75	72	84	72	84	72	84	72	84	72	84	72	83	74	89	72	88	72
5	84	72	78	72	86	72	86	72	86	72	86	72	86	72	84	74	90	72	90	72
6	88	72	84	72	90	72	90	72	90	72	90	72	90	72	86	74	91	72	91	72
7	91	72	87	72	91	72	91	72	91	72	91	72	91	72	86	74	91	72	91	72
8	91	72	87	72	91	72	91	72	91	72	91	72	91	72	86	74	91	72	91	72
9	91	72	87	72	91	72	91	72	91	72	91	72	91	72	86	74	91	72	91	72
10	91	72	87	72	91	72	91	72	91	72	91	72	91	72	86	74	91	72	91	72
11	88	72	84	72	88	72	88	72	88	72	88	72	88	72	84	74	88	72	88	72
12	88	72	84	72	88	72	88	72	88	72	88	72	88	72	84	74	88	72	88	72
13	88	72	84	72	88	72	88	72	88	72	88	72	88	72	84	74	88	72	88	72
14	88	72	84	72	88	72	88	72	88	72	88	72	88	72	84	74	88	72	88	72
15	88	72	84	72	88	72	88	72	88	72	88	72	88	72	84	74	88	72	88	72
16	88	72	84	72	88	72	88	72	88	72	88	72	88	72	84	74	88	72	88	72
17	88	72	84	72	88	72	88	72	88	72	88	72	88	72	84	74	88	72	88	72
18	88	72	84	72	88	72	88	72	88	72	88	72	88	72	84	74	88	72	88	72
19	88	72	84	72	88	72	88	72	88	72	88	72	88	72	84	74	88	72	88	72
20	88	72	84	72	88	72	88	72	88	72	88	72	88	72	84	74	88	72	88	72
21	88	72	84	72	88	72	88	72	88	72	88	72	88	72	84	74	88	72	88	72
22	88	72	84	72	88	72	88	72	88	72	88	72	88	72	84	74	88	72	88	72
23	88	72	84	72	88	72	88	72	88	72	88	72	88	72	84	74	88	72	88	72
24	88	72	84	72	88	72	88	72	88	72	88	72	88	72	84	74	88	72	88	72
25	88	72	84	72	88	72	88	72	88	72	88	72	88	72	84	74	88	72	88	72
26	88	72	84	72	88	72	88	72	88	72	88	72	88	72	84	74	88	72	88	72
27	88	72	84	72	88	72	88	72	88	72	88	72	88	72	84	74	88	72	88	72
28	88	72	84	72	88	72	88	72	88	72	88	72	88	72	84	74	88	72	88	72
29	88	72	84	72	88	72	88	72	88	72	88	72	88	72	84	74	88	72	88	72
30	88	72	84	72	88	72	88	72	88	72	88	72	88	72	84	74	88	72	88	72
31	88	72	84	72	88	72	88	72	88	72	88	72	88	72	84	74	88	72	88	72
Mns	86.9	67.6	86.1	70.7	87.1	68.5	88.1	67.8	86.6	68.6	87.2°	67.9°	88.8	69.5	82.9	73.4	88.3	68.4	87.1	69.5

Date.	Georgia.												South Carolina.							
	Adairsville.§§		Albany.§§		Atlanta.		Augusta.		Dahlonega.		Macon.		Savannah.		Columbia.		Conway.§§		Georgetown.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	95	72	96	72	91	72	94	72	91	72	94	72	92	74	94	72	94	72	94	72
2	94	72	94	72	88	72	92	72	88	72	92	72	92	74	92	72	92	72	92	72
3	94	72	94	72	88	72	92	72	88	72	92	72	92	74	92	72	92	72	92	72
4	94	72	94	72	88	72	92	72	88	72	92	72	92	74	92	72	92	72	92	72
5	94	72	94	72	88	72	92	72	88	72	92	72	92	74	92	72	92	72	92	72
6	94	72	94	72	88	72	92	72	88	72	92	72	92	74	92	72	92	72	92	72
7	94	72	94	72	88	72	92	72	88	72	92	72	92	74	92	72	92	72	92	72
8	94	72	94	72	88	72	92	72	88	72	92	72	92	74	92	72	92	72	92	72
9	94	72	94	72	88	72	92	72	88	72	92	72	92	74	92	72	92	72	92	72
10	94	72	94	72	88	72	92	72	88	72	92	72	92	74	92	72	92	72	92	72
11	94	72	94	72	88	72	92	72	88	72	92	72	92	74	92	72	92	72	92	72
12	94	72	94	72	88	72	92	72	88	72	92	72	92	74	92	72	92	72	92	72
13	94	72	94	72	88	72	92	72	88	72	92	72	92	74	92	72	92	72	92	72
14	94	72	94	72	88	72	92	72	88	72	92	72	92	74	92	72	92	72	92	72
15	94	72	94	72	88	72	92	72	88	72	92	72	92	74	92	72	92	72	92	72
16	94	72	94	72	88	72	92	72	88	72	92	72	92	74	92	72	92	72	92	72
17	94	72	94	72	88	72	92	72	88	72	92	72	92	74	92	72	92	72	92	72
18	94	72	94	72	88	72	92	72	88	72	92	72	92	74	92	72	92	72	92	72
19	94	72	94	72	88	72	92	72	88	72	92	72	92	74	92	72	92	72	92	72
20	94	72	94	72	88	72	92	72	88	72	92	72	92	74	92	72	92	72	92	72
21	94	72	94	72	88	72	92	72	88	72	92	72	92	74	92	72	92	72	92	72
22	94	72	94	72	88	72	92	72	88	72	92	72	92	74	92	72	92	72	92	72
23	94	72	94	72	88	72	92	72	88	72	92	72	92	74	92	72	92	72	92	72
24	94	72	94	72	88	72	92	72	88	72	92	72	92	74	92	72	92	72	92	72
25	94	72	94	72	88	72	92	72	88	72	92	72	92	74	92	72	92	72	92	72
26	94	72	94	72	88	72	92	72	88	72	92	72	92	74	92	72	92	72	92	72
27	94	72	94	72	88	72	92	72	88	72	92	72	92	74	92	72	92	72	92	72
28	94	72	94	72	88	72	92	72	88	72	92	72	92	74	92	72	92	72	92	72
29	94	72	94	72	88	72	92	72	88	72	92	72	92	74	92	72	92	72	92	72
30	94	72	94	72	88	72	92	72	88	72	92	72	92	74	92	72	92	72	92	72
31	94	72	94	72	88	72	92	72	88	72	92	72	92	74	92	72	92	72	92	72
Mns	94.4	71.8	94.4	71.8	88.9	71.3	93.5	71.3	85.6	65.9	87.0	70.5	89.4	71.5	87.9	70.3	89.5	70.6	87.8	73.0

TABLE 3.—*Maximum and minimum temperatures at selected stations, July, 1910. District No. 2*—Continued.

Date.	Georgia.						Florida.																	
	Thomasville.		Waycross.‡‡		West Point.‡‡		Avon Park.		Fort Meyers.		Gainesville.‡‡		Jacksonville.		Jupiter.		Key West.		Miami.		Orlando.		Pensacola.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	94	72	94	72	94	72	96	74	96	74	96	74	96	74	96	74	92	80	94	76	96	74	94	76
2	94	72	94	72	94	72	96	74	96	74	96	74	96	74	96	74	92	80	94	76	96	74	94	76
3	94	72	94	72	94	72	96	74	96	74	96	74	96	74	96	74	92	80	94	76	96	74	94	76
4	94	72	94	72	94	72	96	74	96	74	96	74	96	74	96	74	92	80	94	76	96	74	94	76
5	94	72	94	72	94	72	96	74	96	74	96	74	96	74	96	74	92	80	94	76	96	74	94	76
6	94	72	94	72	94	72	96	74	96	74	96	74	96	74	96	74	92	80	94	76	96	74	94	76
7	94	72	94	72	94	72	96	74	96	74	96	74	96	74	96	74	92	80	94	76	96	74	94	76
8	94	72	94	72	94	72	96	74	96	74	96	74	96	74	96	74	92	80	94	76	96	74	94	76
9	94	72	94	72	94	72	96	74	96	74	96	74	96	74	96	74	92	80	94	76	96	74	94	76
10	94	72	94	72	94	72	96	74	96	74	96	74	96	74	96	74	92	80	94	76	96	74	94	76
11	94	72	94	72	94	72	96	74	96	74	96	74	96	74	96	74	92	80	94	76	96	74	94	76
12	94	72	94	72	94	72	96	74	96	74	96	74	96	74	96	74	92	80	94	76	96	74	94	76
13	94	72	94	72	94	72	96	74	96	74	96	74	96	74	96	74	92	80	94	76	96	74	94	76
14	94	72	94	72	94	72	96	74	96	74	96	74	96	74	96	74	92	80	94	76	96	74	94	76
15	94	72	94	72	94	72	96	74	96	74	96	74	96	74	96	74	92	80	94	76	96	74	94	76
16	94	72	94	72	94	72	96	74	96	74	96	74	96	74	96	74	92	80	94	76	96	74	94	76
17	94	72	94	72	94	72	96	74	96	74	96	74	96	74	96	74	92	80	94	76	96	74	94	76
18	94	72	94	72	94	72	96	74	96	74	96	74	96	74	96	74	92	80	94	76	96	74	94	76
19	94	72	94	72	94	72	96	74	96	74	96	74	96	74	96	74	92	80	94	76	96	74	94	76
20	94	72	94	72	94	72	96	74	96	74	96	74	96	74	96	74	92	80	94	76	96	74	94	76
21	94	72	94	72	94	72	96	74	96	74	96	74	96	74	96	74	92	80	94	76	96	74	94	76
22	94	72	94	72	94	72	96	74	96	74	96	74	96	74	96	74	92	80	94	76	96	74	94	76
23	94	72	94	72	94	72	96	74	96	74	96	74	96	74	96	74	92	80	94	76	96	74	94	76
24	94	72	94	72	94	72	96	74	96	74	96	74	96	74	96	74	92	80	94	76	96	74	94	76
25	94	72	94	72	94	72	96	74	96	74	96	74	96	74	96	74	92	80	94	76	96	74	94	76
26	94	72	94	72	94	72	96	74	96	74	96	74	96	74	96	74	92	80	94	76	96	74	94	76
27	94	72	94	72	94	72	96	74	96	74	96	74	96	74	96	74	92	80	94	76	96	74	94	76
28	94	72	94	72	94	72	96	74	96	74	96	74	96	74	96	74	92	80	94	76	96	74	94	76
29	94	72	94	72	94	72	96	74	96	74	96	74	96	74	96	74	92	80	94	76	96	74	94	76
30	94	72	94	72	94	72	96	74	96	74	96	74	96	74	96	74	92	80	94	76	96	74	94	76
31	94	72	94	72	94	72	96	74	96	74	96	74	96	74	96	74	92	80	94	76	96	74	94	76
Mns	90.2	70.5	91.9	71.3	88.7	70.1	89.7	.....	86.8	71.6	88.6	70.9	88.8	73.2	86.7	73.7	87.9	77.8	89.8	73.3	88.7	71.7	85.0	74.3

Date.	Florida.								Alabama.															
	Tallahassee.‡‡		Tampa.		Anniston.		Bermuda.		Birmingham.		Eufaula.‡‡		Mobile.		Montgomery.		Tuscaloosa.‡‡		Uniontown.		Columbus.‡‡		Hattiesburg.‡‡	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	96	74	94	76	94	72	88	76	94	72	94	72	94	74	94	72	94	72	94	72	94	72	94	72
2	96	74	94	76	94	72	88	76	94	72	94	72	94	74	94	72	94	72	94	72	94	72	94	72
3	96	74	94	76	94	72	88	76	94	72	94	72	94	74	94	72	94	72	94	72	94	72	94	72
4	96	74	94	76	94	72	88	76	94	72	94	72	94	74	94	72	94	72	94	72	94	72	94	72
5	96	74	94	76	94	72	88	76	94	72	94	72	94	74	94	72	94	72	94	72	94	72	94	72
6	96	74	94	76	94	72	88	76	94	72	94	72	94	74	94	72	94	72	94	72	94	72	94	72
7	96	74	94	76	94	72	88	76	94	72	94	72	94	74	94	72	94	72	94	72	94	72	94	72
8	96	74	94	76	94	72	88	76	94	72	94	72	94	74	94	72	94	72	94	72	94	72	94	72
9	96	74	94	76	94	72	88	76	94	72	94	72	94	74	94	72	94	72	94	72	94	72	94	72
10	96	74	94	76	94	72	88	76	94	72	94	72	94	74	94	72	94	72	94	72	94	72	94	72
11	96	74	94	76	94	72	88	76	94	72	94	72	94	74	94	72	94	72	94	72	94	72	94	72
12	96	74	94	76	94	72	88	76	94	72	94	72	94	74	94	72	94	72	94	72	94	72	94	72
13	96	74	94	76	94	72	88	76	94	72	94	72	94	74	94	72	94	72	94	72	94	72	94	72
14	96	74	94	76	94	72	88	76	94	72	94	72	94	74	94	72	94	72	94	72	94	72	94	72
15	96	74	94	76	94	72	88	76	94	72	94	72	94	74	94	72	94	72	94	72	94	72	94	72
16	96	74	94	76	94	72	88	76	94	72	94	72	94	74	94	72	94	72	94	72	94	72	94	72
17	96	74	94	76	94	72	88	76	94	72	94	72	94	74	94	72	94	72	94	72	94	72	94	72
18	96	74	94	76	94	72	88	76	94	72	94	72	94	74	94	72	94	72	94	72	94	72	94	72
19	96	74	94	76	94	72	88	76	94	72	94	72	94	74	94	72	94	72	94	72	94	72	94	72
20	96	74	94	76	94	72	88	76	94	72	94	72	94	74	94	72	94	72	94	72	94	72	94	72
21	96	74	94	76	94	72	88	76	94	72	94	72	94	74	94	72	94	72	94	72	94	72	94	72
22	96	74	94	76	94	72	88	76	94	72	94	72	94	74	94	72	94	72	94	72	94	72	94	72
23	96	74	94	76	94	72	88	76	94	72	94	72	94	74	94	72	94	72	94	72	94	72	94	72
24	96	74	94	76	94	72	88	76	94	72	94	72	94	74	94	72	94	72	94	72	94	72	94	72
25	96	74	94	76	94	72	88	76	94	72	94	72	94	74	94	72	94	72	94	72	94	72	94	72
26	96	74	94	76	94	72	88	76	94	72	94	72	94	74	94	72	94	72	94	72	94	72	94	72
27	96	74	94	76	94	72	88	76	94	72	94	72	94	74	94	72	94	72	94	72	94	72	94	72
28	96	74	94	76	94	72	88	76	94	72	94	72	94	74	94	72	94	72	94	72	94	72	94	72
29	96	74	94	76	94	72	88	76	94	72	94	72	94	74	94	72	94	72	94	72	94	72	94	72
30	96	74	94	76	94	72	88	76	94	72	94	72	94	74	94	72	94	72	94	72	94	72	94	72
31	96	74	94	76	94	72	88	76	94	72	94	72	94	74	94	72	94	72	94	72	94	72	94	72
Means	96.6	68.8	88.5	68.7*	85.5	69.5	87.0	69.0	86.9	72.4	87.8	70.6	90.0	70.1	86.8	70.6	90.0	69.9	90.8	72.0	90.3	70.6	87.0	70.1

Date.	Mississippi.									
	Jackson.		Meridian.		Vicksburg.		Wiggins.		Yazoo City.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	94	72	94	72	94	72	94	72	94	72
2	94	72	94	72	94	72	94	72	94	72
3	94	72	94	72	94	72	94	72	94	72
4	94	72	94	72	94	72	94	72	94	72
5	94	72	94	72	94	72	94	72	94	72
6	94	72	94	72	94	72	94	72	94	72
7	94	72	94	72	94	72	94	72	94	72
8	94	72	94	72	94	72	94	72	94	72
9	94	72	94	72	94	72	94	72	94	72
10	94	72	94	72	94	72	94	72	94	72
11	94	72	94	72	94	72	94	72	94	72
12	94	72	94	72	94	72	94	72	94	72
13	94	72	94	72	94	72	94	72	94	72
14	94	72	94	72	94	72	94	72	94	72
15	94	72	94	72	94	72	94	72	94	72
16	94	72	94	72	94	72	94	72	94	72
17	94	72	94	72	94	72	94	72	94	72
18	94	72	94	72	94	72	94	72	94	72
19	94	72	94	72	94	72	94	72	94	72
20	94	72	94	72	94	72	94	72	94	72
21	94	72	94	72	94	72	94	72	94	72
22	94	72	94	72	94	72	94	72	94	72
23	94	72	94	72	94	72	94	72	94	72
24	94	72	94	72	94	72	94	72	94	72
25	94	72	94	72	94	72	94	72	94	72
26	94	72	94	72	94	72	94	72	94	72
27	94	72	94	72	94	72	94	72	94	72
28	94	72	94	72	94	72	94	72	94	72
29	94	72	94	72	94	72	94	72	94	72
30	94	72	94	72	94	72	94	72	94	72
31	94	72	94	72	94	72	94	72	94	72
Mns	96.3	70.6	87.0	70.1	90.9	69.9	90.8	72.0	90.3	70.6

Climatological Data for July, 1910.

DISTRICT No. 3, OHIO VALLEY.

FERDINAND J. WALZ, District Editor.

GENERAL SUMMARY.

Weather decidedly tropical in character largely prevailed during July, 1910, over the greater portion of the Ohio River Basin. On 25 days of the month rainstorms and thundershowers, frequently attended by locally destructive downpours of rain and more or less violent windsqualls and lightning, swept over extensive areas of this district, particularly in the central, southern, and western sections. In many localities in these sections great loss by damage to crops, fertile soil, bridges, roads, and other property resulted from excessive rains; besides damage from wind and lightning and some few reports of damage by hail. While rain and showers were very frequent in nearly all parts of the district, there was a remarkable difference in the aggregate amount received during the month in the various sections and localities. Over most of the north-central and northeastern portions the monthly rainfall was below the normal, the deficiency being so marked over much of the extreme northern portion as to border on droughty conditions. These conditions were particularly pronounced in the Muskingum Valley in Ohio, the northern drainage of the White River in Indiana, and the lower Monongahela and upper Conemaugh basins in western Pennsylvania, where the monthly rainfall was less than 2 inches. The smallest amount in the district was 1.1 inch at Wooster, Ohio.

Over southeastern Illinois, central and southern Indiana, Kentucky, southern West Virginia, and thence southward to the southern border of the district, except at an occasional station here and there, the monthly rainfall was largely in excess. The greatest excess was in Kentucky, where the average rainfall for the State was nearly 9 inches, or double the usual July amount. Over much of the western portion of Kentucky and the southern portion of Indiana more than 10 inches of rain fell during the month, several stations in these sections reporting amounts ranging between 12 and 16 inches. In nearly all of the central and southern portions of the district the monthly rainfall was in excess of 6 inches. In Tennessee and in much of the eastern portion of the district the rainfalls were largely local, there being decided differences in amounts at neighboring stations. Quite a few instances were noted where this difference was as much as 3 or 4 inches at stations only a few miles apart.

During the first half of the month, although there were no extremely high temperatures registered, the atmospheric conditions were very oppressive, especially in the central and lower Ohio River Valley, for, in addition to the almost continual showers, the air was warm and sultry and surcharged with moisture. This situation was greatly relieved by a week of unusually cool and pleasant weather, which set in about the 17th, and gave an opportunity for the crops, especially wheat that had been cut, but not thrashed or garnered, and which had become watersoaked from the excessive rains, to dry out. Also it was greatly beneficial in giving the growing crops a chance to recuperate from the effects of the excessive moisture.

TEMPERATURE.

The temperature for the month, as a whole, averaged about normal in nearly all parts of the district. It ranged only from about 1.5° above normal in West Virginia and central Ohio to about 2° below normal in central Kentucky and southwestern Indiana. As a rule the warmest day of the month was the first day, when the average temperature ranged from 2 to 7° above normal. This in reality marked the close of a hot wave which had prevailed over much of the district since the middle of June. The maximum temperature at most stations was registered on this day, and ranged generally between 90° and 98°. However, at two stations in Indiana the maximum temperature on this day was 100° and 102°, respectively, the latter occurring at Logansport. These were the only reports of temperatures of 100° in the district during the entire month. The 9th, 11th, 25th, and 27th were also exceptionally warm days and the maximum temperature for the month at many of the stations was recorded on one or more of these dates. In Tennessee the highest temperatures occurred about the 17th, while in Illinois and Kentucky they were registered on the 25th or 27th. In southwestern Virginia the highest temperature for the month was 89°, and in extreme northern Georgia, 90°. During the first half of the month, while there were no unusually high temperatures, yet the weather was oppressive and sultry on account of the superabundance of moisture in the air. This was especially marked in the sections bordering along the central and lower Ohio River.

About the 16th a very cool spell, lasting about a week, began to overspread the district. During the prevalence of this cool wave the average daily temperatures ranged from 5° to 12° below normal, while minimum temperatures ranging between 45° and 55° were registered generally throughout the district. During this cool spell a minimum temperature of 39° occurred at Bolivar, N. Y., on the 19th, and at Oakland, Md., on the 20th; and temperatures of 41° occurred at Markle, Ind., and 42° at Burkes Garden, Va., on the 19th. After the 22d the temperatures were again moderately high, except on the last day, when they ranged between 3° and 7° below normal.

PRECIPITATION.

The rainfall was so unevenly distributed in the district and was so varied both in amount and effect that a discussion of the precipitation by States or portions of States is deemed advisable.

New York, Pennsylvania, and Maryland.—In the portions of these three States lying in the Ohio Basin the rainfall was below normal, the deficiency ranging from 1.5 to 2 inches.

The following are extracts from the summaries of the section directors in the various States:

West Virginia.—July, 1910, was characterized by severe electric storms and an uneven distribution of rainfall over the State. Considerable damage was done by lightning, high winds, and excessive rains. The monthly rainfall at some of the stations in the southern counties was the greatest of record, while marked deficiencies occurred in a number of the northern counties. The fall over the basins of the Guyandotte and Big Sandy rivers was from two to three times the normal amount, while the amount over the Little Kanawha Basin was 1.5 inch below normal. The rainfall was also deficient in most sections of the Monongahela Basin.

Excessive rain fell over the central portion of Pendleton County on the 3d, but no great damage was done. Destructive electric storms occurred in many sections on the 12th. Several barns were burned, one or two residences were struck, and several persons were more or less injured by shock from lightning.

Cloudbursts occurred in the central portion of Raleigh County on the 10th and in Logan County on the 18th, only minor damage resulting. Considerable damage was caused by a cloudburst over the northern portion of Mineral County on the 20th. Crops and orchards were destroyed in many localities and roads were badly washed. On the 27th a severe electric storm attended by high winds, heavy rains, and hail passed over Berkeley County. Several barns were struck and burned by lightning, fruit trees were uprooted, and electric lines crippled. Crops were also washed out and one man was severely injured by lightning. Also on the same date there were damaging storms in portions of Marshall and Ohio counties. At Benwood a number of houses were unroofed, and windows were broken by hail. The storm was also very severe in Wheeling.

Ohio.—As a great proportion of the rainfall came as local thundershowers, the distribution was very irregular. Some of the greatest and some of the least monthly amounts occurred at nearby stations, but, in general, there was more rain in the Ohio River counties than elsewhere. Showers were frequent during the first half of the month. From the 17th to the 26th there was practically no rain. Good showers again occurred on the 27th and 28th in many of the counties, but in others the rain was very light and vegetation was beginning to suffer seriously from the lack of moisture.

There were a number of destructive storms. On the 5th a man was killed by lightning in Hamilton County. On the 10th a storm having tornadic characteristics did some minor damage in Belmont County. On the 12th a thunderstorm passed across the State doing considerable damage in Portage and Trumbull counties. In the vicinity of Warren five buildings were struck by lightning and considerable damage was done by high winds. On the 15th there was some damage to crops by high winds in Madison County, and on the 16th in Butler County.

A very destructive storm also occurred on the 16th near the head of Turkey Creek, 2 miles below Portsmouth. An excessively heavy downpour of rain occurred over the headwaters of the creek about 3 p. m., which soon changed the little stream into a raging torrent. A large volume of water overflowed the banks and rushed down over the lowlands of the valley in a great wave carrying everything before it. The fertile soil of fields with their crops of corn, wheat, and tobacco, together with bridges, buildings, and live stock for a distance of 7 miles were swept away. Only one out of five bridges in the valley was left, and that was badly injured. In many fields the fertile soil was washed away completely. The loss to the county in bridges and damaged roads is about $10,000, and the total loss to the valley is estimated at about $100,000. That there was no loss of human life was due to the fact that the storm occurred in the daytime. As it was, there were many narrow escapes.

Probably the most widespread destructive storm of the month was the one that passed over the State on the afternoon and evening of the 27th. Reports of damage from lightning, wind, rain, and hail came from many counties. A man was struck and killed by lightning in Delaware County. The damage to the corn and oat crops was especially severe.

North Carolina.—The precipitation was considerably above normal, being heavier in the southern than in the northern portions. At Murphy 11.28 inches were recorded. Heavy thunderstorms, with high winds, were reported from Hot Springs on the 28th, and at Cullowhee on the 5th, 27th, and 28th, causing some damage to crops.

Alabama.—July was excessively wet, there being 27 days on which appreciable precipitation was recorded in some portion of the territory. At some of the stations the month was the wettest July with one exception, that of 1906, in the last 15 years. Damaging rains occurred on the 13th in the central portion of Marshall County, 3.40 inches falling between 3 and 4:30 p. m. On the 14th four men were killed and three severely shocked by lightning, and a large shed filled with wheat set on fire at Guntersville.

Tennessee.—During the first 18 days thundershowers were of daily occurrence and were generally distributed over the State. This rainy spell in reality began about the 20th of June, and therefore continued for a period of four weeks. On several dates, particularly the 13th, 16th, and 17th there were violent and destructive storms in certain localities. Damage from lightning, wind, and heavy rain resulted, especially to crops, in some 10 or 12 counties. Severe storms occurred also on the 26th in Giles and Henry counties, and on the 29th in Wayne, Chester, Dickson, Henry, and Weakley counties. On the 29th they were attended by terrific lightning, which, however, did little damage, although the heavy wind, rain, and hail were quite destructive to crops.

Stages were considerably above normal for July in both the Cumberland and Tennessee rivers.

Kentucky.—The month was remarkable on account of the torrential rains which occurred in very nearly all parts of the State. The average amount of precipitation for the State was greater than in any other July in the past 25 years. It was nearly double the normal amount for July, for the State as a whole, while in some localities it was as much as three times the usual July amount. In the Green River Valley the rainfall at most stations ranged from 11 to 13 inches, one station, Beaver Dam, reporting 13.2 inches. Over much of the rest of the State the amounts were from 8 to 10 inches.

During the first 18 days of the month the State was visited day after day by rainstorms, accompanied frequently by high winds and deluges of rain, causing great and widespread damage to crops, overflowing the streams, carrying away bridges, destroying roads, inundating bottom lands, and washing and stripping hillsides of crops and fertile soil. These storms were not confined to any particular section, but occurred in practically all parts of the State, only a few scattered localities escaping. In Nicholas County there were six storms within three weeks, all of them entailing great damage, and several of them causing floods which carried away bridges and houses. Many bridges over streams in other portions of the State also were carried away.

Following this storm period there was a week of fair and unusually pleasant weather, which fortunately gave opportunity for the crops, both those that were growing and those that had been cut, but not thrashed or garnered, to recuperate or dry out.

About the 25th another period of rainstorms began, which lasted until the 30th, when again heavy and damaging rain, wind, and electrical storms swept over large areas of the State. In the Green River Basin and along the lower Ohio, from the mouth of the Salt River to the mouth of the Cumberland River, these storms were especially severe, and enormous damage from the flooding of the lands, washing out of the crops, carrying away of bridges, and destroying of roads resulted. Several thousand acres of land in these sections were inundated and the crops literally destroyed, bringing suffering and even destitution to hundreds of families. The greatest damage appears to have been done in Ohio, McLean, Daviess, Breckenridge, and Hancock counties, where alone the loss was estimated to have been $1,000,000. At Beaver Dam, on the 27-28th, 5.27 inches of rain fell within 24 hours.

At Maysville, Mason County, there were two unusually destructive and violent rainstorms, one on the 16th, when about 1.5 inch of rain fell in 30 minutes, and the other on the 27th, when 2.24 inches of rain fell in 1 hour and 15 minutes. The latter storm was particularly disastrous, converting creeks and streams into raging torrents, which swept everything before them.

In addition to the damage from rain and wind there was a great deal of destruction during the month by lightning. A number of persons lost their ives in various localities, and there were many instances reported of stock being killed, and barns with their contents burned.

Indiana.—The rainfall for the State, as a whole, was much above the usual amount and greater than for this month in any year since 1896. The distribution varied greatly, ranging from less than 2 inches in the northern portion to more than 10 inches in some of the southern and western counties; one station, Rome, reporting 15.9 inches. Several stations reported rainfalls of between 3 and 5.5 inches within 24 hours.

While over the northern counties the weather bordered on droughty conditions, over many of the southern and western counties there were many rainstorms severe and damaging in character. A few of these storms are given in detail, as follows: On the 9th a storm, somewhat general in extent, occurred. In Clark County crops were flooded or battered down and the ground badly washed, causing damage estimated at $25,000, and in Shelby County, $8,000. A boy was killed by lightning in Shelby County, and a man in Delaware County. Also there was damage to the extent of $50,000 in Gibson County, and $2,000 in Grant County, where several buildings were struck by lightning and several head of live stock killed.

On the 15th and 16th there were heavy rainstorms in the west-central parts of the State. Crops were beaten down and fields flooded by the downpours of rain, causing damage estimated at $50,000. A man and several head of live stock were killed, and a number of buildings were destroyed by lightning near Worthington.

Illinois.—The average precipitation for the area of the State in District No. 3 was greatly above the normal. Rains occurred almost daily from the 2d to the 17th, inclusive, culminating in a heavy and general rainstorm on the 15th and 16th. Heavy rains also occurred on the 28th and 29th. The heavy rains of the 15-16th caused great damage to standing and harvested crops in the bottom lands of creeks and rivers. Torrential falls occurred in a few hours; small streams were quickly turned into raging torrents, the water reaching far out on either side. Large quantities of oats and wheat in shock were floated away, and standing corn was ruined. Great destruction occurred in the bottom lands of the Embarrass and its small tributaries. Great damage was done also in the extreme southwestern portions of the district in the lowlands of the Cache River. A conservative estimate of the loss in crops and property would amount to $500,000.

Violent electrical displays attended the storms of the 15-16th and 28-29th. A number of barns were destroyed by lightning, but no loss of life was reported.

WATER POWER PROJECT NEAR NASHVILLE, TENN.

Work will probably begin within the next few months in the actual construction of the great $3,500,000 project of the Great Falls Power Company for the benefit of Nashville. The purpose of the company is to furnish to the city of Nashville and its citizens electric energy for the operation of lights, motors, and heating apparatus, and for all other uses and purposes to which electric energy is now or may hereafter be applied.

Great Falls is on the Caney Fork River, north of McMinnville, Tenn., and is 1 mile below the junction of Caney Fork and Collins rivers. Caney Fork River is the line between White and Warren counties.

During the past year a force of 25 or more surveyors and right-of-way men has been on the ground. All property desired has been purchased and as soon as the titles can be made clear nothing will be lacking to begin the work but the arrangement of the financial details. Some of the titles run back as far as the early part of the 18th century, when the original grants were made. $3,500,000 or $4,000,000 will be necessary for the development of the water power and the instalment of the plant.

TABLE 1.—*Climatological data for July, 1910. District No. 3, Ohio Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
New York.																				
Allegany	Cattaraugus	1,441	4	67.9	.....	92	9	41	5	42	3.84	.....	2.13	0.0	9	16	11	4	nw.	Charles E. Whitney.
Bolivar	Allegheny	1,800	16	67.6	+ 1.0	92	9	39	19†	49	3.11	− 1.96	1.61	0.0	8	12	5	14	w.	Lowell Andrus.
Franklinville	Cattaraugus	1,598	13	67.3	− 0.7	90	9	40	5†	40	3.95	− 0.91	1.05	0.0	8	15	6	10	sw.	Dr. John W. Kales.
Olean	Cattaraugus	.....	2	.....	.....	.....	.....	.....	.....	.....	3.34	.....	1.45	0.0	7	25	5	1	sw.	John W. Alles.
Pennsylvania.																				
Aleppo	Greene	1,135	9	72.6	.....	92	1	46	20	41	5.15	.....	2.07	0.0	9	17	7	7	sw.	J. S. Hinerman.
Baldwin	Butler	1,404	4	70.9	.....	90	24	48	19	33	3.09	.....	0.85	0.0	8	20	9	2	w.	S. H. Templeton.
Claysville	Washington	1,127	6	73.6	.....	94	1	47	20	39	2.88	.....	1.85	0.0	9	14	14	3	w.	E. T. Buchanan.
Franklin	Venango	955	36	71.2	− 0.2	91	10	46	19	34	3.46	− 1.29	1.14	0.0	11	18	8	5	nw.	F. E. Dixon.
Greenville	Mercer	950	14	71.5	+ 1.0	93	9	44	19	39	3.04	− 2.10	1.21	0.0	11	25	6	0	n.	A. M. Orr.
Indiana	Indiana	1,350	13	72.6	+ 2.3	91	9	50	19†	36	3.28	.....	1.28	0.0	7	13	13	5	s.	Rev. J. M. Welch.
Johnstown	Cambria	1,184	22	74.0	+ 0.7	94	9	49	20	38	1.23	− 3.44	0.46	0.0	8	12	18	1	s.	E. C. Lorentz.
Lycippus	Westmoreland	1,420	18	72.8	+ 0.1	89	10	54	19†	29	4.22	− 0.92	1.62	0.0	8	.....	.....	.....	.....	Murray Forbes.
Pittsburg	Allegheny	842	40	74.9	+ 0.1	91	1	57	20	25	1.26	− 3.13	0.63	0.0	9	12	17	2	sw.	U. S. Weather Bureau.
Saegerstown	Crawford	1,116	19	68.7	− 0.6	92	9	41	19†	44	4.83	+ 0.03	1.45	0.0	10	10	11	10	nw.	J. G. Apple.
Skidmore	Lawrence	1,000	6	70.8	.....	92	9	41	19	42	2.35	.....	1.00	0.0	4	28	3	0	s.	W. H. Stoner.
Somerset	Somerset	2,250	54	71.0	+ 2.4	93	28	45	20	38	2.65	− 2.26	0.92	0.0	7	5	21	5	sw.	W. M. Schrock.
Uniontown	Fayette	999	22	72.4	− 0.7	90	24†	50	20	33	2.84	− 2.83	0.64	0.0	11	6	18	7	sw.	Wm. Hunt.
Warren	Warren	1,137	21	68.8	− 0.9	90	9	44	5	37	4.90	− 0.49	1.36	0.0	8	21	1	9	sw.	Anna Simpson.
Maryland.																				
Deer Park	Garrett	.....	16	69.5	+ 2.7	97	12	42	19†	44	2.31	− 2.69	0.78	0.0	6	.....	.....	.....	.....	S. P. Specht.
Grantville	...do	.....	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. S. Miller.
Oakland	...do	.....	10	68.7	+ 2.2	88	1	39	20	39	3.19	− 1.38	0.95	0.0	15	12	14	5	w.	R. E. Weber.
West Virginia.																				
Bancroft	Putnam	.....	6	76.2	.....	90	1†	56	19†	29	5.22	.....	1.72	0.0	11	17	7	7	sw.	James Hill.
Beckley	Raleigh	2,440	11	71.5	− 0.5	89	1	50	20	30	10.44	+ 7.86	3.15	0.0	10[a]	16[a]	0[a]	14[a]	w.	John A. Ewart.
Ben's Run	Pleasants	622	9	75.3	.....	92	1	54	20	28	3.26	.....	1.34	0.0	9	21	7	3	.....	J. D. Riggs.
Bluefield	Mercer	2,563	15	72.6	+ 0.6	89	1	50	19	28	4.61	0.00	0.82	0.0	15	9	15	7	.....	Norfolk & Western Ry.
Buckhannon	Upshur	1,472	20	73.4	+ 0.7	91	1	48	20	33	5.31	− 0.19	1.30	0.0	10	21	7	3	.....	H. A. Darnall.
Cairo	Ritchie	667	8	75.5	.....	96	2	55	20†	34	1.69	.....	0.85	0.0	6	0	25	6	s.	Van A. Zevely.
Central Station	Doddridge	900	11	71.4[f]	.....	91	9	46	19†	38[f]	3.84	− 0.40	0.85	0.0	.....	8[f]	11[f]	6[f]	sw.	G. W. Sherwood.
Charleston	Kanawha	598	24	77.5	.....	91	12	58	20	24	5.18	+ 1.36	1.08	0.0	14	20	11	0	w.	R. C. Hewes.
Creston	Wirt	612	10	76.2	.....	95	11	54	20	35	3.13	− 0.56	1.02	0.0	9	13	9	9	w.	J. M. Reed.
Cuba	Jackson	544	9	73.8	.....	90	1	49	20	32	4.21	− 0.09	0.90	0.0	11	9	19	3	w.	C. T. Perry.
Elkhorn	McDowell	1,933	18	72.0	− 0.4	89	1	52	19	29	7.24	+ 2.12	1.74	0.0	14	9	21	1	sw.	J. J. Lincoln.
Elkins	Randolph	1,940	11	71.9	+ 1.3	91	1	48	20	34	4.07	− 0.57	1.30	0.0	15	5	16	10	w.	U. S. Weather Bureau.
Fairmont	Marion	879	18	75.8	.....	97	1	49	20	39	5.53	+ 0.60	1.20	0.0	10[a]	.....	.....	.....	.....	H. Glenn Fleming.
Glennville	Gilmer	738	22	76.8	+ 2.6	95	1	53	20	33	3.41	− 1.91	1.09	0.0	10	7	8	16	sw.	John Holt.
Grafton	Taylor	985	18	74.1	+ 1.5	93	1	49	20	34	5.15	+ 0.24	1.32	0.0	9	18	11	2	.....	John W. Snider.
Green Sulphur Springs	Summers	1,600	14	74.0	+ 1.4	94	25	52	22	36	4.80	+ 1.29	1.03	0.0	17	25	0	6	w.	John W. Dalton.
Hinton	...do	1,400	21	.....	.....	.....	.....	.....	.....	.....	4.77	+ 1.27	1.40	0.0	17	.....	.....	.....	sw.	J. B. Lavender, C. E.
Huntingdon	Cabell	510	15	77.8	+ 1.1	94	1†	55	20	30	6.68	+ 2.30	1.14	0.0	13	16	5	10	w.	L. H. Hutchinson.
Lewisburg	Greenbrier	2,200	10	70.9	− 0.6	88	12	51	19	28	4.69	+ 0.75	0.95	0.0	14	21	5	5	w.	Geo. T. Atgabrite.
Logan	Logan	665	8	76.0	.....	98	15	50	21	38	13.16	.....	3.15	0.0	17	0	31	0	e.	H. C. Ragland.
Lost Creek	Harrison	1,033	14	73.7	+ 0.9	95	1	46	20	38	3.99	− 1.10	0.93	0.0	10	13	6	12	w.	Allen Smith.
Madison	Boone	704	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	S. E. Bradley.
Mannington	Marion	967	7	73.2	.....	94	1	47	20	36	4.02	.....	1.25	0.0	10	16	9	6	w.	Jas. A. Morgan.
Marlinton	Pocahontas	2,169	11	67.6	− 2.4	80	1†	52	20	24	7.09	+ 1.63	3.07	0.0	10	9	14	8	.....	C. J. McCarty.
Morgantown	Monongalia	1,250	36	73.8	0.0	91	1	52	20	28	4.08	− 1.21	1.10	0.0	11[a]	16[a]	1[a]	13[a]	s.	Horace Atwood.
Moundsville	Marshall	640	8	75.6	.....	95	1†	50	20	37	4.33	.....	0.85	0.0	9	23	4	4	sw.	J. E. Matthews.
New Cumberland	Hancock	987	10	72.1	− 1.4	92	9	48	19†	35	2.35	− 2.52	1.40	0.0	5	13	15	3	s.	Frank S. Evans.
New Martinsville	Wetzel	634	17	76.5	+ 0.9	95	1†	52	20	35	4.75	− 0.38	2.27	0.0	10	23	7	1	s.	Wm. Ankron.
Nuttallburg	Fayette	2,252	18	71.0	− 1.1	90	1†	52	20	30	5.32	+ 1.32	0.88	0.0	14	11	13	7	.....	Stephen Tully.
Parkersburg	Wood	638	22	75.7	+ 0.1	97	1	54	20	33	2.98	− 1.68	1.00	0.0	13	9	13	9	s.	U. S. Weather Bureau.
Parsons	Tucker	1,662	11	71.8	+ 1.1	91	1	45	20	35	3.89	− 0.52	0.80	0.0	10	15	15	1	.....	J. W. Swisher.
Philippi	Barbour	1,192	18	74.2	+ 1.6	93	1	49	20	35	5.12	− 0.25	1.06	0.0	16	12	14	5	w.	J. D. Dadisman.
Pickens	Randolph	2,785	20	69.1	− 0.2	86	1†	50	19†	26	6.74	+ 0.44	1.68	0.0	11	21	6	4	w.	Dr. J. L. Cunningham.
Pineville	Wyoming	.....	2	74.9	.....	93	13	56	20†	32	10.54	.....	2.03	0.0	16	12	14	5	.....	W. V. Senter.
Point Pleasant	Mason	553	21	77.2	+ 0.4	95	26	52	20	34	5.62	+ 1.67	1.12	0.0	13	12	7	12	sc.	W. D. Holmes.
Powellton	Fayette	904	14	75.0	+ 0.8	91	1	55	21	30	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. A. W. DeBell.
Princeton	Mercer	2,469	10	67.2	.....	81	12	50	19	24	7.70	+ 1.60	1.45	0.0	11	9	19	3	w.	H. Scott.
Robertsburg	Putnam	.....	1	76.2	.....	93	11	54	20	31	5.42	.....	1.08	0.0	13	11	5	15	s.	E. P. Turley.
Ryan	Roane	639	7	73.0	.....	89	1†	49	20	36	3.83	.....	0.69	0.0	13	11	15	5	.....	Wm. E. Ryan.
Smithfield	Wetzel	.....	6	71.5	.....	88	1	50	20	28	6.78	.....	2.16	0.0	11	14	11	6	sw.	G. M. Whisler.
Spencer	Roane	710	7	72.8	.....	89	12†	49	20	35	3.83	.....	1.94	0.0	7	0	31	0	.....	A. M. McKown.
Sutton	Braxton	.....	5	79.0	.....	98	9	55	21	35	5.00	+ 0.67	1.65	0.0	6	18	2	11	.....	J. E. Baughman.
Terra Alta	Preston	3,207	10	72.8	+ 3.9	90	2†	52	31	35	4.40	− 2.39	0.84	0.0	9	13	9	9	w.	C. F. Dodge.
Union	Monroe	.....	7	70.4	.....	90	12	49	19	33	5.60	.....	1.58	0.0	17	.....	.....	.....	.....	Shelton Clark.
Valley Fork	Clay	.....	7	.....	.....	.....	.....	.....	.....	.....	4.65	.....	2.00	0.0	5	10[e]	16[e]	2[e]	.....	Miss Blanche Pierson.
Webster Springs	Webster	1,500	7	73.2	.....	90	9†	53	20	30	4.62	.....	1.10	0.0	12	6	17	8	sw.	D. H. Hamrick.
Wellsburg	Brooke	1,235	10	72.4	+ 0.4	88	1	53	19†	26	2.63	− 1.99	0.75	0.0	11	15	14	2	sw.	C. P. Waugh.
Weston	Lewis	824	21	75.0	− 0.9	98	23†	50	22†	46	3.06	− 2.14	0.90	0.0	10[e]	15[a]	14[a]	1[a]	sw.	Miss C. M. Davis.
Wheeling	Ohio	645	26	76.4	.....	97	9	53	20	37	4.86	+ 1.86	2.26	0.0	11	19	7	5	sw.	Miss M. B. Forsyth.
Williamson	Mingo	660	10	77.6	+ 1.5	93	1	61	20	24	6.58	+ 2.36	1.34	0.0	14	13	15	3	e.	J. F. Keyser.
Ohio.																				
Amesville	Athens	630	6	75.4	.....	94	9†	45	20	44	3.21	.....	0.97	0.0	7	13	13	5	sw.	F. W. Gibson.
Bangorville	Richland	1,380	23	73.6	+ 1.1	92	1†	54	20	32	2.44	− 1.80	0.92	0.0	7	12	18	1	sw.	S. M. Painter.
Bellefontaine	Logan	1,276	16	73.0	− 0.7	95	1	52	20†	35	3.19	− 1.14	1.23	0.0	8	15	10	6	s.	Cory L. Lane.
Bladensburg	Knox	1,100	19	70.6	− 1.1	89	1	44	20	36	2.08	− 2.62	0.80	0.0	6	11	18	2	sw.	Miss Mary Elliott.
Cadiz	Harrison	1,245	7	74.6	.....	93	1	53	19	30	5.28	.....	2.10	0.0	9	13	14	4	w.	Harry B. McConnell.
Cambridge	Guernsey	803	18	72.6	0.0	91	1	46	20	37	1.78	− 3.10	0.66	0.0	6	11	19	1	.....	Samuel Mehaffey.
Camp Dennison	Hamilton	570	17	75.6	− 1.0	93	1†	51	19	33	4.56	+ 0.96	1.17	0.0	13	12	16	3	sw.	Henry F. Pinkvoss.
Canal Dover	Tuscarawas	884	17	73.4	+ 0.4	95	9	49	19†	36	4.32	− 0.35	1.18	0.0	7	7	24	0	sw.	Ed. S. Slingluff.
Canton	Stark	1,065	27	72.2	0.0	90	9†	50	20	34	4.37	− 0.40	1.43	0.0	8	13	12	6	s.	Prof. C. F. Stokey.
Cardington	Morrow	1,010	15	72.8	+ 0.8	95	1	46	20	41	3.46	− 0.78	1.10	0.0	7	20	7	4	sw.	Ansel E. Salisbury.
Chillicothe	Ross	630	.....	.....	.....	.....	.....	.....	.....	.....	2.50	.....	1.65	0.0	4	.....	.....	.....	.....	Owen L. Brown.
Cincinnati	Hamilton	628	39	76.6	− 1.1	93	1	58	19	25	3.62	+ 0.08	1.07	0.0	11	7	10	14	sw.	U. S. Weather Bureau.
Circleville	Pickaway	694	22	76.4	+ 1.1	92	26	51	19	32	4.43	+ 0.49	1.12	0.0	10	9	9	13	sw.	Hon. S. W. Courtright
Clarington	Monroe	600	7	73.9	.....	93	1	50	20	34	4.90	.....	2.14	0.0	10	6	18	7	se.	Col. S. Tschappat.
Columbus	Franklin	918	32	75.2	− 0.1	94	1	55	19	27	2.40	− 1.25	1.20	0.0	8	10	12	9	s.	U. S. Weather Bureau.
Coshocton	Coshocton	770	1	.....	.....	.....	.....	.....	.....	.....	2.50	.....	1.10	0.0	6	.....	.....	.....	.....	Mrs. Ada Jeffries.
Dayton	Montgomery	790	29	75.0	− 1.2	97	1	49	19	36	3.[illegible]	+ 0.37	1.05	0.0	9	6	23	2	sw.	Mrs. Edith L. Boyer.
Delaware	Delaware	927	13	73.7	− 0.4	94	1	47	20	39	2.[illegible]	− 1.53	0.90	0.0	10	15	8	8	sw.	Prof. L. L. Hudson.
Demos	Belmont	1,325	22	74.5	+ 1.6	95	1	49	20	40	3.20	− 1.39	1.10	0.0	11	20	9	2	sw.	J. T. Dysart.
Dennison§	Tuscarawas	908	.....	74.8	.....	96	9	46	19	40	4.91	.....	2.43	0.0	10	15	16	0	s.	Water Supply Co.
Frankfort	Ross	750	18	76.0	+ 1.4	95	1†	50	19†	39	3.03	− 0.19	0.90	0.0	7	18	6	7	sw.	O. A. Cory.
Garrettsville	Portage	1,005	26	70.6	+ 1.0	94	9	43	20	40	2.80	− 1.14	2.03	0.0	7	15	16	0	sw.	S. M. Luther.

TABLE 1.—*Climatological data for July, 1910. District No. 3*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Ohio—Cont'd.																				
Granville	Licking	960	28	74.0	+ 0.7	95	1	47	20	39	2.82	− 1.03	1.00	0.0	12	15	1	15	sw.	Dr. L. E. Davis.
Gratiot‖	do	1,000	21	72.2	− 0.6	90	1	49	20	33	2.21	− 2.55	0.49	0.0	10	12	15	4	sw.	W. B. Longstreth.
Green	Adams	500	17	75.8	+ 0.1	92	1†	52	19	32	9.51	+ 5.15	2.31	0.0	11	13	10	8	sw.	W. F. Kenyon.
Green Hill	Columbiana	1,135	18	69.8	− 0.9	90	9	45	19	34	6.09	+ 1.67	1.65	0.0	11	16	15	0	sw.	Jos. E. Bentley.
Greenville	Darke	1,060	24	74.6	+ 1.1	94	1	53	18	33	2.06	− 0.68	1.07	0.0	11	9	11	11	s.	G. A. Katzenberger.
Hillsboro	Highland	1,063	31	73.2	− 2.3	90	1	54	19†	27	7.22	+ 3.08	2.54	0.0	11	2	23	6	sw.	Carey H. Roush.
Ironton	Lawrence	575	27	77.1	+ 2.5	92	1†	53	20	32	6.88	+ 2.67	1.12	0.0	14	19	7	5	sw.	James Bull.
Jacksonburg	Butler	975	42	75.1	− 0.9	95	1	52	19	30	3.70	+ 0.28	1.77	0.0	8	12	9	10	ne.	Dr. J. B. Owsley.
Kenton	Hardin	1,015	18	73.4	0.0	98	2†	47	19†	40	3.92	+ 0.37	1.64	0.0	6	20	10	1	w.	N. S. Martin.
Killbuck	Holmes	1,087	18	72.9	0.0	91	9	48	20	34	3.65	− 0.93	1.26	0.0	8	18	12	1	n.	Geo. W. Nowels.
Lancaster	Fairfield	898	15	74.2	+ 0.2	93	1	52	20	30	5.13	+ 0.55	1.54	0.0	12	17	4	10	sw.	R. L. Renshaw.
Lawabe	Adams	900	7	75.6	.....	95	10	50	19†	34	5.20	.....	1.00	0.0	19	19	9	3	w.	Miss Ruth Hoffman.
McConnelsville	Morgan	710	26	75.2	+ 1.5	94	1	49	20	35	1.62	− 2.73	0.45	0.0	11	8	15	8	sw.	C. H. Morris.
Marietta	Washington	627	90	76.4	+ 2.5	97	1	53	20	34	2.25	− 2.38	0.54	0.0	10	5	16	10	s.	Prof. T. D. Biscoe.
Marion	Marion	980	32	75.0	+ 1.1	96	1	49	20	39	2.31	− 2.07	1.28	0.0	4	15	11	5	sw.	Dr. E. H. Raffensperger.
Milfordton	Knox	1,200	18	72.4	0.0	91	1	48	20	37	2.16	− 1.98	0.81	0.0	9	24	7	0	sw.	L. H. Burgess.
Milligan‖	Perry	875	17	72.8	− 1.0	96	15	46	20	38	4.93	+ 0.91	2.83	0.0	9	10	16	5	sw.	V. C. Eveland.
Millport	Columbiana	1,145	18	71.0	− 0.6	90	9	47	19†	34	4.36	+ 0.08	1.18	0.0	9	8	23	0	w.	G. F. Copeland.
Nellie	Coshocton	850	10	73.5	+ 0.2	92	1†	49	19†	40	1.48	− 3.44	0.43	0.0	5	11	15	5	s.	Miss Ethel L. Gamertsfelder
New Alexandria	Jefferson	1,050	25	73.8	+ 0.6	94	8	48	16	39	2.10	− 2.68	1.00	0.0	5	27	1	3	w.	Mrs. Mary K. Pennell.
New Berlin	Stark	1,100	18	72.4	− 0.8	94	23	49	20	35	3.59	− 0.68	1.23	0.0	7	24	7	0	n.	Clayton Holl.
New Waterford	Columbiana	1,053	16	72.1	+ 0.5	93	9	45	18	37	1.83	− 2.80	1.53	0.0	4	22	8	1	sw.	Sam. C. Scott.
Ohio State University	Franklin	757	27	74.1	+ 0.6	93	1	50	19	33	3.31	+ 0.12	1.59	0.0	9	6	17	8	sw.	Prof. H. C. Lord.
Pataskala	Licking	997	18	73.1	− 0.8	94	1	49	20	35	3.50	− 0.62	0.90	0.0	11	7	20	4	sw.	J. N. Ridenour.
Philo(1)	Muskingum	1,018	15	73.6	− 1.0	92	1	52	19	30	2.44	− 2.20	0.73	0.0	8	17	8	6	sw.	L. C. Burckholter.
Piqua	Miami	847	2	.....	.....	.....	.....	.....	.....	.....	4.92	.....	1.91	0.0	6	.....	.....	.....	.....	Harry L. Roberts.
Plattsburg	Clarke	1,130	17	73.0	− 1.0	94	1	52	14†	34	4.18	+ 0.04	1.37	0.0	6	11	13	7	sw.	F. E. Stewart.
Pomeroy	Meigs	781	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. L. Russell.
Portsmouth	Scioto	527	79	76.0	− 0.7	91	1†	52	20	32	3.33	− 0.70	0.56	0.0	14	14	6	11	w.	Dr. H. A. Schirrmann.
Prospect	Marion	909	.....	.....	.....	.....	.....	.....	.....	.....	3.43	.....	1.16	0.0	5	.....	.....	.....	.....	Neil J. Gast.
Rittman	Wayne	990	18	72.0	+ 0.2	94	24†	45	20	43	1.94	− 2.53	1.07	0.0	5	19	11	1	w.	J. B. Gish.
Shenandoah‖	Richland	1,100	18	70.8	− 1.2	92	1	46	20	39	3.84	− 0.98	1.72	0.0	5	1	28	2	sw.	T. B. Arnett.
Sidney	Shelby	985	27	75.4	+ 0.4	97	1	50	19	35	2.70	− 0.94	0.78	0.0	10	18	6	7	sw.	Hamline B. Blake.
Somerset	Perry	1,080	11	75.0	+ 0.1	95	1	53	19	31	2.77	− 1.56	1.00	0.0	9	14	13	4	n.	Miss M. W. C. Sheridan.
Springfield	Clarke	1,002	16	.....	.....	.....	.....	.....	.....	.....	2.21	− 1.83	0.78	0.0	8	4	24	3	sw.	W. A. Webster.
Summerfield	Noble	1,187	4	72.8	.....	94	1	46	20	38	3.22	.....	0.93	0.0	10	11	16	4	s.	H. R. McClintock.
Thurman	Gallia	696	17	74.8	− 1.3	90	1†	52	20	30	4.67	+ 0.99	2.00	0.0	10	5	18	8	w.	D. D. Thomas.
Urbana	Champaign	1,031	40	74.2	+ 0.7	97	1	51	19†	37	4.27	− 0.14	2.42	0.0	6	11	18	2	sw.	Prof. J. H. Williams.
Warren	Trumbull	900	21	72.4	+ 0.1	95	9	46	19†	40	2.32	− 2.23	1.49	0.0	6	19	7	5	sw.	M. D. McCorkle.
Waverly‖	Pike	590	27	76.3	+ 0.5	94	1	50	20	36	3.18	− 0.60	0.89	0.0	13	15	1	15	s.	Herrmann A. Lorbach.
Waynesville	Warren	700	25	72.8	− 1.8	94	1	53	19	30	3.56	+ 3.07	2.00	0.0	12	7	17	7	w.	Charles Michener.
Wooster	Wayne	1,030	30	72.6	+ 1.2	94	25	44	20	41	1.12	− 3.45	0.45	0.0	5	22	9	0	sw.	Experiment Station.
Youngstown	Mahoning	846	18	.....	.....	.....	.....	.....	.....	.....	4.60	+ 0.99	1.90	0.0	6	.....	.....	.....	.....	G. R. Patton.
Zanesville	Muskingum	709	23	.....	.....	.....	.....	.....	.....	.....	1.88	− 2.47	0.50	0.0	10	16	4	11	s.	S. G. Sprague.
Virginia.																				
Big Stone Gap	Wise	1,540	19	73.6	+ 1.0	89	1	50	21	24	5.51	+ 0.08	0.55	0.0	16	12	15	4	w.	John W. Fox, sr.
Blacksburg	Montgomery	2,170	19	70.0	− 2.2	87	2†	46	29	32	7.15	+ 2.39	2.75	0.0	16	5	15	11	w.	Agricultural Exp. Station.
Burksgarden	Tazewell	3,250	15	66.8	− 0.8	85	1	42	19	32	3.97	− 0.67	0.88	0.0	10	7	6	18	w.	C. H. Greever.
Elk Knob	Lee	3,243	7	72.0	.....	85	23	57	19	21	7.40	.....	0.97	0.0	20	10	13	8	sw.	Henry Nicoll.
Galax	Grayson	2,300	.....	71.5	.....	85	1†	49	21	31	4.30	.....	1.20	0.0	11	14	8	9	sw.	E. C. Williams.
Ivanhoe**‖	Wythe	2,028	6	71.4	.....	84	1	52	19†	22	3.59	.....	0.96	0.0	15	10	20	1	w.	Miss Alice G. Jewett.
Lebanon	Russell	2,131	.....	72.2	.....	88	1	54	22	30	6.48	.....	1.06	0.0	16	9	10	12	sw.	R. W. Swain.
Marion	Smyth	2,224	15	71.9	− 0.6	89	1	52	21	30	4.76	+ 0.26	1.22	0.0	12	17	13	1	sw.	S. W'n State Hospital.
Max Meadows	Wythe	2,028	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James M. Graham.
Mendota‖‖	Washington	1,350	1	.....	.....	.....	.....	.....	.....	.....	4.67	.....	0.90	0.0	14	.....	.....	.....	.....	Frank M. Baker.
Radford‖‖	Montgomery	1,773	1	.....	.....	.....	.....	.....	.....	.....	5.02	.....	1.20	0.0	12	.....	.....	.....	.....	Arthur Roberts.
Speers Ferry‖‖	Scott	1,221	14	.....	.....	.....	.....	.....	.....	.....	6.68	+ 1.40	2.00	0.0	13	.....	.....	.....	.....	Mrs. L. E. Venable.
Wytheville	Wythe	2,293	17	71.4	− 1.2	88	1	49	19	28	3.24	− 1.20	0.54	0.0	18	15	12	4	w.	U. S. Weather Bureau.
North Carolina.																				
Altapass	Mitchell	2,629	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. C. & O. Railway.
Andrews	Cherokee	1,800	.....	74.5	.....	91	11	55	20†	30	7.62	.....	1.17	0.0	20	1	30	0	sw.	J. D. Link.
Asheville	Buncombe	2,250	31	72.0	+ 0.3	86	16	51	20	28	4.65	− 0.21	0.90	0.0	22	2	18	11	s.	U. S. Weather Bureau.
Banners Elk	Watauga	3,750	2	67.0	.....	84	12	46	21	28	5.75	.....	0.77	0.0	16	9	15	7	w.	T. L. Lowe.
Brevard	Transylvania	2,230	9	72.8	.....	88	11†	56	21	27	6.81	.....	0.88	0.0	17	2	29	0	s.	W. E. Breese.
Bryson City	Swain	2,000	22	.....	.....	.....	.....	.....	.....	.....	7.54	+ 2.26	1.45	0.0	22	.....	.....	.....	.....	D. K. Collins.
Cullowhee	Jackson	2,100	.....	73.4	.....	92	26	50	20	31	5.07	.....	1.17	0.0	20	11	14	6	nw.	F. H. Brown.
Hendersonville	Henderson	2,167	14	72.4	+ 0.1	88	26	52	20	28	9.58	+ 3.38	2.10	0.0	17	14	11	6	sw.	T. W. Valentine.
Highlands	Macon	3,670	20	66.2	− 0.8	81	26	49	20†	28	7.97	+ 1.26	1.10	0.0	22	0	23	8	nw.	T. G. Harbison.
Hot Springs	Madison	1,326	12	74.2	− 0.5	87	25	56	20	23	8.38	.....	1.72	0.0	22	8	15	8	w.	P. A. Garner.
Jefferson	Ashe	2,800	3	70.3	.....	86	25	48	20	29	5.89	.....	1.81	0.0	12	3	11	17	s.	E. J. Johnson.
Marshall	Madison	1,646	9	75.2	.....	92	25	55	20	28	4.81	.....	1.10	0.0	12	.....	.....	.....	.....	W. E. Finley.
Murphy	Cherokee	1,614	34	.....	.....	.....	.....	.....	.....	.....	11.28	+ 5.24	2.00	0.0	16	.....	.....	.....	.....	Miss J. Campbell.
Rock House	Macon	3,100	18	69.4	− 2.1	82	26	53	20	21	8.47	+ 0.10	1.69	0.0	20	10	8	6	sw.	B. C. Hawkins.
Waynesville	Haywood	2,756	16	70.9	+ 0.5	87	26	49	20	32	5.43	+ 0.60	1.15	0.0	22	12	11	8	sw.	J. C. L. Gudger.
Georgia.																				
Diamond	Gilmer	2,020	20	73.1	− 1.4	90[a]	15	57[a]	20†	25	5.24	− 1.47	0.95	0.0	18	8[b]	11[b]	10[b]	.....	R. A. Kimzey.
La Fayette	Walker	841	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ralph A. Snow.
Alabama.																				
Bridgeport	Jackson	660	10	.....	.....	.....	.....	.....	.....	.....	8.34	+ 3.59	1.07	0.0	17	10	2	19	w.	R. L. Moore.
Decatur	Morgan	573	28	79.3	− 0.5	97	29	61	19†	27	6.38	+ 1.98	1.23	0.0	17	13	2	16	sw.	Ernest A. Carriger.
Florence	Lauderdale	563	26	79.4	+ 0.2	90	29	66	19	16	6.40	+ 1.72	1.70	0.0	13	12	6	13	w.	Robt. E. Coburn.
Guntersville	Marshall	580	5	77.8	.....	92	11†	58	21	28	9.18	.....	3.92	0.0	19	6	9	16	sw.	L. S. Long.
Madison	Madison	573	16	77.3	− 2.0	93	11	60	19	28	9.08	+ 4.82	5.33	0.0	14	7	24	0	sw.	Albert Klish.
Riverton	Colbert	360	13	77.5	− 1.4	96	11†	55	19	30	7.26	+ 3.03	1.57	0.0	14	8	10	13	s.	Ernie J. Moore.
Scottsboro	Jackson	652	27	76.4[d]	− 1.8	90[d]	29	61[d]	20	23[d]	6.58	+ 1.36	1.30	0.0	18	6	21	4	sw.	Miss Irene Caldwell.
Tuscumbia	Colbert	488	28	78.7	− 1.3	93	10†	60	19	25	7.91	+ 3.66	2.30	0.0	16	10	5	16	se.	Samuel Moore.
Tennessee.																				
Ashwood	Maury	725	31	76.9	− 1.4	91	11	58	19	30	5.50	+ 1.01	1.10	0.0	14	4	13	14	s.	Mrs. J. W. Fleming.
Benton	Polk	880	25	77.2	+ 0.4	93	11	60	21†	29	7.29	+ 2.71	1.77	0.0	18	2	19	10	.....	G. L. Williams.
Birds Bridge	Greene	.....	4	.....	.....	.....	.....	.....	.....	.....	9.68	.....	1.68	0.0	18	10	2	19	w.	D. B. George.
Bluff City	Sullivan	.....	13	.....	.....	.....	.....	.....	.....	.....	6.62	+ 0.54	1.36	0.0	16	11	4	16	.....	J. W. Fisher.
Byrdstown	Pickett	1,026	17	76.6	+ 0.8	90	8†	55	20	25	7.95	+ 2.72	1.50	0.0	13	7	10	14	s.	John Lacy.
Carthage	Smith	500	26	77.9	− 0.4	93	11†	60	19†	31	8.94	+ 4.70	2.00	0.0	23	12	3	16	.....	E. C. Pickering.
Cedar Hill	Robertson	625	10	78.4	− 0.5	95	11†	58	19†	30	6.45	+ 3.26	1.15	0.0	16	12	19	0	s.	J. F. Ruffin.
Celina	Clay	494	7	.....	.....	.....	.....	.....	.....	.....	9.84	.....	3.50	0.0	16	13	5	13	.....	S. B. Anderson.
Cenret Point	Chester	.....	13	.....	.....	.....	.....	.....	.....	.....	5.92	+ 2.95	1.33	0.0	10	19	0	12	s.	H. H. Bailey.
Charleston	Bradley	.....	13	.....	.....	.....	.....	.....	.....	.....	8.17	.....	1.70	0.0	20	8	10	13	s.	J. T. Weeks.

TABLE 1.—*Climatological data for July, 1910. District No. 3*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Tennessee—Cont'd.																				
Chattanooga	Hamilton	808	31	77.2	− 0.6	91	11	62	22	25	4.06	+ 0.19	1.01	0.0	20	4	11	16	sw.	U. S. Weather Bureau.
Clarksville	Montgomery	520	47	77.4	− 1.1	93	28	58	20	26	4.52	+ 0.59	0.72	0.0	14	10	17	4	s.	Prof. Jas. A. Lyon.
Clinton	Anderson		22								5.48	+ 0.04	1.25	0.0	15	10	0	21	sw.	John Thompson.
Dandridge	Jefferson		6								4.86		1.00	0.0	11	19	6	6	w.	J. E. Swann.
Decatur	Meigs	850	14	77.2	− 0.4	92	11†	59	19	29	5.30	+ 0.43	0.88	0.0	21	9	18	4	sw.	J. W. Lillard.
Dickson	Dickson	800	14	76.3	− 1.5	90	25	60[a]	20	25[a]	5.32	+ 1.29	1.05	0.0	17	8	22	1	sw.	N. R. Sugg.
Dover	Stewart		15	78.1	0.0	93	25†	60	19†	28	3.67	+ 0.63	0.81	0.0	8	8	13	10	s.	A. M. Tippit.
Dunlap	Seaquatchee	726	1	77.4		94	11	58	21	30	5.48		0.85	0.0	21	4	21	6		S. B. Boyd.
Elizabethton	Carter	1,575	20								7.87	+ 3.26	1.30	0.0	15	10	7	14	e.	Chas. Boyd.
Erasmus	Cumberland	1,850	13	72.0	− 0.2	88	11	50	20	33	7.34	+ 1.75	0.98	0.0	20	3	25	3	se.	Mrs. E. D. Ashley.
Florence	Rutherford	560	28	77.2	− 1.0	89	11†	61	20	22	5.76	+ 1.49	1.02	0.0	18	9	14	8	w.	Erastus P. Bell.
Franklin	Williamson	655	20	76.1	− 2.0	89	27	60	19†	23	7.04	+ 3.39	2.01	0.0	12	6	12	13		J. L. Parkes, jr.
Halls Hill	Rutherford		8								5.52		1.10	0.0	15	11	0	20	s.	Ed. F. Wright.
Harriman	Roane	841	15	77.8	+ 1.1	93	23	59	20	29	0.95	+ 3.35	2.89	0.0	15	9	21	1		Robert R. Ayers.
Hohenwald	Lewis	983	24	76.4	0.0	92	25	58	19†	29	7.56	+ 2.92	1.62	0.0	17	9	13	9	s.	John Lutzelman.
Iron City	Lawrence		13	76.7		91	31	58	19†	31	5.93	+ 2.05	1.80	0.0	16				sw.	Capt. H. P. Seavy.
Jefferson City	Jefferson										5.00		1.10	0.0						C. Calvin Maddox.
Johnson City	Washington										7.54		2.03	0.0	20	12	13	6	w.	Ward Crosby.
Johnsonville	Humphreys	364	14	78.0	− 0.9	95	28	59	19†	30	9.99	+ 6.17	2.08	0.0	17	10	12	9	s.	Miss Sallie B. Matthews.
Jonesboro	Washington	1,740	15	75.2	+ 0.6	91	1	52	20	31	6.76	+ 1.78	1.45	0.0	15				ne.	Robert A. Lovegrove.
Kingston	Roane		19								3.92	+ 0.89	0.80	0.0	17	8	0	23	s.	H. Crumbliss.
Knoxville	Knox	977	39	76.6	+ 0.4	90	11	61	20	23	5.09	+ 0.88	1.30	0.0	15	5	19	7	sw.	U. S. Weather Bureau.
Lebanon	Wilson	522	1	77.3		92	11	57	19	27	9.88		2.20	0.0	17	7	9	15	s.	Logan Fields.
Lewisburg	Marshall	727	15	78.2	− 0.1	94	11	60	20†	29	7.50	+ 2.67	2.76	0.0	14	11	13	7	sw.	Dr. R. D. Crutcher.
Livingston	Overton																			E. C. Knight.
Loudon	Loudon	816	7								7.72		3.30	0.0	15	17	0	14	w.	Robert W. Clark.
Lynnville	Giles	770	22	77.5	− 0.8	90	26	61	19†	26	9.43	+ 4.34	2.43	0.0	17	6	25	0	s.	Col. J. H. Burrow.
McGhee	Monroe		6								3.40		0.95	0.0	10	13	17	1	s.	Alice L. Hendricks.
McMinnville	Warren	1,011	26	75.8	− 0.6	90	11	57	19	26	6.51	+ 1.21	0.97	0.0	21	7	19	5	s.	J. T. Sparkman.
Maryville	Blount	1,050	14	76.4	− 1.4	91	11	59	21	27	5.76	+ 1.65	2.07	0.0	15	5	20	6	sw.	Mrs. F. E. Benedict.
Mountain City	Johnson	2,486	13	71.1	+ 1.3	89	1	49	19	30	8.93	+ 3.01	2.40	0.0	15	12	16	3		E. E. Barry.
Nashville	Davidson	654	39	78.0	− 1.4	91	11	64	19	23	4.45	+ 0.10	0.76	0.0	16	10	10	11	s.	U. S. Weather Bureau.
Newport	Cocke	1,280	20	75.4	− 1.2	87	10†	58	20	21	6.80	+ 2.44	1.50	0.0	9	12	18	1	w.	Dr. C. T. Burnett.
New River	Scott	1,215	3								5.64		1.60	0.0	14	23	1	7	sw.	Burl W. Buttram.
Palmetto	Bedford	770	17	77.2	− 1.0	91	11	57	19	25	6.63	+ 1.33	1.63	0.0	11	12	13	6	sw.	Mrs. Ross Woods.
Pinewood	Hickman		3	77.4		94	25	57	19	30	5.98		0.95	0.0	17	9	11	11	s.	Miss Carrie Cash.
Pope	Perry		13								6.90	+ 3.26	1.60	0.0	7	10	14	7	s.	Miss Bessie Howard.
Rogersville	Hawkins	1,150	25	75.0	+ 0.5	92	1	55	20	28	7.66	+ 2.90	1.88	0.0	18	5	15	11	w.	Fred. Beal.
Rugby	Morgan	1,410	22	74.2	+ 0.2	90	8†	52	20	34	6.26	+ 0.94	1.19	0.0	22	1	9	21	w.	S. G. Wilson.
Savannah	Hardin	442	26	77.6[d]	− 2.0	92	29	60	19	30[d]	4.98	+ 0.56	0.82	0.0	13					W. F. Bell.
Sevierville	Sevier		4	74.8		88	10†	56	20	28	5.64		1.24	0.0	17	0	8	23	sw.	H. O. Eckel.
Sewanee	Franklin	2,000	14	73.2	− 1.7	86	11†	58	19	21	6.29	+ 1.06	1.22	0.0	14	1	4	26	s.	University of the South.
Sparta	White	920	4	77.5		·92	8†	57	19	31[b]	8.87		1.47	0.0	16	5	4	22	w.	E. H. Hull.
Springdale	Claiborne	1,058	20																	Mrs. Lucy E. Breeding.
Springville	Henry	377	7	77.4		93	25	56	19	28	6.13		1.12	0.0	14	13	12	6	s.	H. A. Boden.
Tazewell	Claiborne		13								6.41		1.18	0.0	16	11	5	15	sw.	J. C. Carr.
Tullahoma	Coffee	1,075	22	75.9	− 0.3	89	11	59	19†	26	5.03	+ 0.28	0.83	0.0	20	6	23	2	s.	R. T. Moore.
Walling	White	909	7								10.08		1.65	0.0	21	4	9	18		J. K. Roberts.
Waynesboro	Wayne	753	24	76.9	− 0.9	92	29	58	22	26	7.30	+ 2.76	1.55	0.0	18	3	22	6	sw.	H. C. Boyd.
Wildersville	Henderson		13	78.2		98	17	59	19	28	8.68	+ 4.93	1.59	0.0	15	10	12	9	s.	W. R. Wilson.
Worsham	Sumner		9								7.91		1.05	0.0	17	13	5	13		J. G. Elizer.
Yukon	Lincoln	850	13	76.4	− 2.1	92	29	58	19	26	6.44	+ 2.31	1.35	0.0	16	5	21	5	sw.	W. P. Watson.
Kentucky.																				
Alpha	Clinton		16	74.8	− 1.8	85	10	59	20	20	9.58	+ 3.59	2.00	0.0	22	7	15	9	s.	W. W. Hicks.
Anchorage	Jefferson	700	9	74.3	− 1.8	90[a]	1	53[a]	20	30	9.33	+ 4.55	2.70	0.0	13	8[a]	11[a]	11[a]	w.	C. E. Barrett.
Bardstown‡‡	Nelson	637	14	77.4	− 0.8	92	8†	55	20	34	8.04	+ 3.05	1.53	0.0	16	14	0	17	se.	G. M. Talbott.
Beattyville‡‡	Lee	650	7	74.9		92	1†	52	20	35	8.72		2.20	0.0	19	6	6	19	sw.	G. W. Cann.
Beaver Dam‡‡	Ohio	441	7	77.1		91	7†	54	20	31	13.24		5.27	0.0	14	15	5	11	nw.	T. S. Woodward.
Berea	Madison	1,070	9	75.6	− 0.6	92	1†	53	20	31	10.83	+ 6.28	1.90	0.0	18	13	8	10	sw.	C. F. Rumold.
Bowling Green‡‡	Warren	500	21	77.8	− 1.2	94	11†	55	20	33	10.67	+ 6.43	1.80	0.0	18	8	6	17	s.	Mrs. L. G. Causey.
Burnside	Pulaski	773	20								10.54	+ 5.90	2.50	0.0	19	14	5	12	n.	G. M. Estes.
Cadiz	Trigg		8	78.2		94	25	58	19†	25	10.61		2.65	0.0	15	11	8	12		F. T. Street.
Calhoun	McLean	397	7	79.0		95	25	57	20	32	11.05		2.58	0.0	16	8	19	4	sw.	W. A. Taylor.
Catlettsburg	Boyd	544	17								8.76	+ 4.66	2.20	0.0	14	12	9	10	sw.	Mrs. Mertie M. Bruns.
Earlington‡‡	Hopkins	370	21	79.0	+ 1.1	96	25	54	20†	38	12.01	+ 7.71	3.17	0.0	16	16	4	11	s.	J. B. Atkinson.
Edmonton	Metcalfe	600	19	75.2	− 0.6	89[b]	15†	56[b]	20	29[b]	12.13	+ 7.58	2.33	0.0	18	6	12	13	s.	Miss Lee Ray.
Eubank‡‡	Pulaski	1,177	16	74.8	− 0.1	89	1†	56	20†	28	8.37	+ 4.03	1.12	0.0	19	12	2	17	sw.	W. H. Henderson.
Falmouth	Pendleton	530	21								6.59	+ 2.94	1.66	0.0	17	10	6	15	s.	J. V. Oldham.
Farmers	Rowan	668	5	75.2		90	9†	51	20	33	6.93		1.40	0.0	14	4	19	8	w.	Miss Gertrude Sorrell.
Frankfort	Franklin	560	20	77.1[d]	+ 0.7	90	29	61[d]	30	24[d]	8.62	+ 4.65	1.34	0.0	15	11	6	14	sw.	J. H. Roberts.
Franklin	Simpson	691	17	76.8	− 0.9	92	11	56	20	30	9.36	+ 5.58	2.64	0.0	19	1	28	2	sw.	J. E. Newman.
Greensburg‡‡	Green	581	18	75.3	− 1.6	95	3	52	20	35	6.22	+ 1.53	1.20	0.0	19	8	2	21	s.	L. C. Alcorn.
Highbridge	Jessamine	762	8								6.95		1.10	0.0	18	14	3	14		Miss Lulu Wood.
Hopkinsville‡‡	Christian	524	14	79.0	+ 0.5	95	14	59	20	29	8.03	+ 3.72	1.90	0.0	12	8	4	19	s.	W. F. Randle.
Irvington	Breckinridge		12	76.4	− 1.1	89	11†	57	20	28	8.73	+ 5.73	1.40	0.0	17	16	5	10	sw.	W. J. Piggott.
Leitchfield	Grayson	635	13	75.3	− 1.1	87	8†	57	19	25	6.98	+ 2.46	1.04	0.0	14	10	16	5	sw.	John E. Stone.
Lexington	Fayette	969	23	74.8	− 1.8	89	1	56	19	23	7.66	+ 3.22	1.42	0.0	19	6	7	18	sw.	U. S. Weather Bureau.
Loretto	Marion	681	13	75.0	− 1.6	88	1†	55	19	28	6.26	+ 2.34	1.08	0.0	13	17	5	9		Loretto Academy.
Louisville	Jefferson	525	38	77.8	− 0.8	93	1	59	19	26	10.21	+ 6.47	1.80	0.0	17	9	11	11	sw.	U. S. Weather Bureau.
Marion	Crittenden		16	77.0	− 0.8	93	25	54	20	33	9.35	+ 5.36	3.08	0.0	10	12	8	11	w.	B. C. Paris.
Maysville‡‡	Mason	524	14	76.6	− 0.4	94	1†	53	19†	34	9.87	+ 5.35	2.64	0.0	16	9	7	15	sw.	Mrs. Mary D. Marsh.
Middlesboro	Bell	1,128	17	76.2	+ 1.7	91	23	57	19	29	5.48	− 0.40	0.52	0.0	23	8	23	0		B. H. Perkins.
Mount Sterling‡‡	Montgomery	930	21	75.9	+ 0.3	90	1†	53	20	29	9.59	+ 4.58	2.24	0.0	16	9	10	12	s.	James O'Connell.
Owensboro‡‡	Daviess	479	14	78.4	+ 0.6	91	25†	60	19	23	12.71	+ 8.58	2.10	0.0	14	7	9	15	s.	Henry S. Berry.
Owenton	Owen	700	14	74.6	− 2.9	89	1†	54	19	25	8.11	+ 3.61	1.67	0.0	11	2	21	8		J. T. Walker.
Paducah‡‡	McCracken	341	17								11.94	+ 8.00	2.40	0.0	13	19	0	12	s.	S. A. Fowler.
Pikeville	Pike		1								7.10		2.00	0.0	13	17	4	10		A. R. Williams.
Richmond‡‡	Madison	926	21	75.6	− 1.0	91	1	55	19	28	6.52	+ 2.79	2.20	0.0	18	14	4	13		J. W. Crooke.
St. John‡‡	Hardin	777	14	75.6	+ 0.3	89	7†	55	20	28	5.83	+ 2.20	1.60	0.0	16	18	4	9		Bethlehem Academy.
Scott	Kenton		13	75.3	− 1.7	93	1	54	20	30	3.79	+ 0.22	1.63	0.0	9	11	12	8	s.	E. B. Wilson.
Shelby City	Boyle	1,087	16	72.6	− 2.7	86	1†	53	18†	26	7.06	+ 2.82	1.42	0.0	19	7	8	16	s.	W. E. Grubbs.
Shelbyville‡‡	Shelby	759	21	76.8	− 0.3	95	22†	55	19†	36	9.12	+ 4.92	2.36	0.0	16	12	7	12	s.	O. M. Lynch.
Taylorsville	Spencer	422	8	76.0		90	23†	53	20	32	8.59		2.02	0.0	18	9	15	7	ne.	E. D. Bourne.
Williamsburg‡‡	Whitley	939	13	76.6	− 0.2	92	1†	55	19	30	6.56	+ 0.36	1.65	0.0	16	14	1	16	w.	Noble C. Jones.
Williamstown‡‡	Grant	943	8	74.4		89	1	55	18†	25	6.30		1.18	0.0	15	13	5	13		Mrs. Sarah E. Carter.
Indiana.																				
Anderson	Madison	892	15	75.2	+ 0.9	96	1	52	19†	31	3.20	− 0.35	1.50	0.0	9	16	9	6	sw.	W. H. Stanton.

TABLE 1.—*Climatological data for July, 1910. District No. 3*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Indiana—Cont'd.																				
Bloomington	Monroe	744	15	74.8	− 1.5	91	1	52	19	29	9.11	+ 5.26	4.25	0.0	16	9	6	16	sw.	Earl E. Ramsey.
Bluffton	Wells	833	15	74.6	+ 0.7	97	1	45	20	43	2.07	− 1.47	0.56	0.0	7	15	15	1	sw.	Prof. P. A. Allen.
Butlerville	Jennings	767	25	75.4	− 0.5	94	1	52	19	33	9.77	+ 6.19	1.48	0.0	18	11	11	9	sw.	C. F. Hole.
Cambridge City	Wayne	941	19	72.9	− 0.7	96	1	47	19	36	3.73	+ 0.13	1.40	0.0	11	17	1	13	ne.	Charles Lemberger.
Columbus	Bartholomew	632	27	75.0	− 0.4	95	1	49	19	33	8.00	+ 4.93	2.07	0.0	18	14	2	15	sw.	John A. Perry.
Connersville	Fayette	769	28	75.2	+ 0.9	98	1	50	20	36	4.74	+ 1.43	2.23	0.0	11	16	5	10	nw.	C. C. Hibbs.
Delphi	Carroll	668	25	76.0	+ 1.7	99	1	51	19	35	3.73	− 0.06	1.75	0.0	10	7	17	7	.....	L. A. Higginbotham.
Eminence	Morgan	782	4	73.8	.....	92	1	52	19†	32	6.64	.....	2.02	0.0	9	16	12	3	sw.	Dr. E. E. Kelso.
Evansville	Vanderburg	386	34	77.8	− 1.5	92	25	61	19	25	10.32	+ 6.51	2.52	0.0	18	6	21	4	s.	U. S. Weather Bureau.
Farmersburg	Sullivan	.....	12	75.4	− 0.6	92	27	55a	20	27a	8.49	+ 4.24	4.32	0.0	13	8	17	6	sw.	Maurice Yeager.
Farmland	Randolph	1,101	28	73.6	+ 0.2	92	1	52	19	27	2.60	− 0.81	0.84	0.0	9	10	5	16	w.	W. J. Davisson.
Greenfield	Hancock	905	7	73.0	.....	89	1†	53	20	25	6.46	.....	2.85	0.0	10	1	29	1	sw.	Prof. W. C. Goble.
Greensburg	Decatur	954	14	75.0	− 0.6	93	1	54	19	27	5.89	+ 1.53	2.23	0.0	7	7	15	9	sw.	Chas. H. Ewing.
Huntingburg	Dubois	.....	2	77.4	.....	94	27	53	20	32	10.05	.....	2.76	0.0	13	.....	.....	.....	.....	H. Dufendach.
Huntington	Huntington	741	17	75.6	+ 1.4	98	1	50	20	36	2.78	− 0.86	1.60	0.0	9	18	10	3	sw.	Chas. McGrew.
Indianapolis	Marion	822	39	75.3	− 0.9	94	1	57	18	23	7.52	+ 3.39	2.83	0.0	12	9	12	10	sw.	U. S. Weather Bureau.
Jeffersonville	Clark	455	28	76.8	− 1.0	91	1†	56	19†	28	10.13	+ 6.19	2.21	0.0	17	10	16	5	w.	John C. Loomis.
Judyville	Warren	.....	3	74.0	.....	95	1†	48	20	45	2.66	.....	1.01	0.0	6	15	12	4	sw.	Dale R. Warrwick,
Kokomo	Howard	840	18	74.8	+ 0.2	98	1	50	20	35	1.98	− 1.47	0.94	0.0	5	12	14	5	sw.	P. H. Robertson.
Lafayette	Tippecanoe	617	31	75.0	+ 0.5	94	1†	54	19†	28	4.21	+ 0.42	1.96	0.0	14	13	6	12	s.	Wm. J. Jones, jr.
Logansport	Cass	620	30	77.2	+ 1.8	102	1	51	19	38	3.56	+ 0.27	1.13	0.0	9	14	7	10	e.	Chas. Massena.
Madison	Jefferson	460	18	76.4	− 1.2	92	1†	54	19	33	8.41	+ 4.82	1.83	0.0	17	11	12	8	sw.	Dr. J. Cooperider.
Marengo	Crawford	363	28	74.4	− 1.8	89	1†	51	20	30	11.75	+ 7.48	1.54	0.0	17	7	14	10	sw.	J. M. Johnson.
Marion	Grant	814	24	74.8	+ 0.7	98	1	49	19	35	4.20	+ 1.15	1.25	0.0	9	11	9	11	s.	James F. Hood.
Markle	Huntington	814	15	73.4	+ 0.4	99	1	41	19	42	2.30	− 0.82	0.80	0.0	5	15	15	1	sw.	I. S. Shideler.
Mauzy	Rush	980	30	73.6	+ 0.1	95	1	50	19	33	5.44	+ 2.20	2.47	0.0	10	7	13	11	sw.	Elwood Kirkwood.
Monticello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. E. Loughry.
Moores Hill	Dearborn	.....	9	74.6	.....	92	1	53	19†	31	5.07	.....	1.43	0.0	14	14	7	10	sw.	W. S. Bigney.
Mount Vernon	Posey	410	24	79.3	+ 0.7	93	25†	62	20†	28	8.28	+ 3.97	2.77	0.0	14	24	0	7	s.	Chas. M. Spencer.
Paoli	Orange	611	13	75.2	− 1.5	92	1†	51	19†	32	8.67	+ 5.26	1.92	0.0	16	5	20	6	sw.	James A. Gillum.
Princeton	Gibson	481	28	76.6	− 0.5	96	27	53	20	33	8.34	+ 4.95	1.32	0.0	11	22	6	3	.....	Elisha Jones.
Richmond	Wayne	972	25	72.6	− 1.2	93	2	48	19	35	4.13	+ 0.46	1.75	0.0	9	10	14	7	.....	Walter Vossler.
Rochester	Fulton	775	7	76.8	.....	97	1	55	18†	32	1.43	.....	0.58	0.0	6	17	8	6	.....	G. P. Keith.
Rockville	Parke	722	24	74.2	− 0.5	90	1	55	18†	24	11.01	+ 7.28	3.47	0.0	12	11	10	10	s.	Dr. W. N. Wirt.
Rome	Perry	370	7	78.1	.....	94	14†	55	20†	35	15.91	.....	4.25	0.0	17	15	7	9	sw.	Adam Anspach.
Salamonia	Jay	.....	5	73.3e	.....	94e	1†	45e	19	38e	3.53	.....	.....	0.0	10	11b	6b	12b	sw.	Chas. V. Skinner.
Salem	Washington	717	17	74.8	− 1.9	90	1†	52	20	33	7.18	+ 3.81	1.54	0.0	16	11	16	4	sw.	Emmet S. Allen.
Scottsburg	Scott	570	16	78.2	+ 0.6	96	1	57	19	29	8.57	+ 4.82	2.39	0.0	15	8	16	7	sw.	Frank H. Park.
Seymour	Jackson	610	23	76.0	− 0.1	93	1	52	19	34	6.58	+ 2.94	1.67	0.0	16	6	24	1	sw.	J. Robt. Blair.
Shelbyville	Shelby	.....	6	74.2	.....	96	1	51	19	32	9.72	.....	3.60	0.0	11	10	15	6	sw.	Edgar A. Hodson.
Terre Haute	Vigo	498	20	77.1	− 0.3	93	2†	57	19	27	6.30	+ 2.94	2.28	0.0	9	15	9	7	sw.	Prof. R. G. Gillum.
Veedersburg	Fountain	612	11	75.8	+ 0.8	96	1†	51	19†	34	2.74	− 0.73	1.18	0.0	9	18	11	2	s.	L. A. Culver, jr.
Vevay	Switzerland	525	29	77.2	0.0	93	1†	54	20	28	5.85	+ 1.74	1.35	0.0	12	5	15	11	sw.	Miss Frederica Boerner.
Vincennes	Knox	431	18	76.6	− 1.5	96	27	56	20	31	5.93	+ 1.58	1.40	0.0	15	11	6	14	sw.	Garrett V. List.
Washington	Daviess	484	14	75.6	− 1.4	91	27	55	20	25	10.64	+ 6.72	2.22	0.0	14	14	6	11	sw.	Homer B. Turrell.
Whitestown	Boone	.....	2	73.2	.....	92	1	52	18†	28	4.61	.....	1.85	0.0	11	10	18	3	sw.	C. A. Stevenson.
Winona Lake	Kosciusko	.....	3	75.2	.....	100	1	50	19†	42	1.72	.....	1.06	0.0	7	9	22	0	w.	Rev. Albert A. Young.
Worthington	Greene	526	28	75.2	0.0	91	27	53	19	26	10.88	+ 6.84	5.42	0.0	15	12	15	4	w.	D. W. Solliday.
Illinois.																				
Albion	Edwards	531	19	78.0	− 0.1	95	8†	57	19	28	6.00	+ 1.90	1.75	0.0	14	13	11	7	s.	B. F. Michels.
Charleston	Coles	720	25	75.1	− 1.2	95	27	52	19	30	7.37	+ 3.39	2.01	0.0	13	7	13	11	s.	Jacob B. Daisy.
Danville	Vermilion	604	9	76.2	.....	96	27	52	19	33	4.30	.....	1.12	0.0	11	14	8	9	sw.	J. J. Lemon.
Equality	Gallatin	421	12	78.2	− 0.4	97	25	55	19	28	9.26	+ 4.38	3.13	0.0	13	12	19	0	s.	Dr. L. W. Gordon.
Fairfield	Wayne	495	17	77.8	+ 0.1	97	27	54	20	32	5.20	+ 1.34	1.40	0.0	12	18	0	13	sw.	Geo. A. Tromly.
Flora	Clay	495	24	77.6	+ 1.1	99	27	54	19	33	5.03	+ 0.58	2.26	0.0	12	15	10	6	se.	Jos. S. Peak.
Golconda	Pope	500	32	79.0	+ 0.5	98	25	57	20	29	10.75	+ 7.10	5.54	0.0	16	9	3	19	sw.	Dr. D. Lawrence.
Hoopeston	Vermilion	715	8	74.8	.....	94	1†	52	19	31	4.66	.....	1.79	0.0	10	17	8	6	.....	S. F. Hoskinson.
McLeansboro	Hamilton	462	27	77.7	+ 0.1	95	25	54	20	34	3.57	+ 0.34	1.15	0.0	9	18	1	12	w.	C. C. Judd.
Martinsville	Clark	630	22	76.4	0.0	95	27	54	19†	32	7.74	+ 3.86	2.20	0.0	10	8	7	16	n.	G. M. Daugherty.
Mount Carmel	Wabash	424	9	76.6	.....	94	27	57	19†	28	6.83	.....	1.36	0.0	16	13	6	12	s.	Mrs. H. M. Phillips.
New Burnside	Johnson	556	15	77.6	− 1.2	96	25	54	19†	30	7.38	+ 2.79	3.00	0.0	15	15	7	9	s.	Geo. Harris.
Olney	Richland	486	23	77.8	0.0	97	27	55	19	31	4.30	+ 0.46	1.25	0.0	12	7	11	13	ne.	Victor E. Phillips.
Palestine	Crawford	500	28	76.6	+ 0.2	93	27	54	19	30	11.11	+ 7.23	2.92	0.0	15	10	11	10	sw.	Duane Shaw.
Paris	Edgar	600	17	75.0	− 0.9	92	25	52	19	30	5.30	+ 1.95	2.10	0.0	8	12	15	4	sw.	H. P. Twyman.
Philo	Champaign	700	26	74.6	0.0	95	27	51	20	32	3.75	− 0.14	1.51	0.0	9	15	13	3	sw.	H. A. Burr.
Rantoul	...do	768	19	75.2	− 0.4	97	27	52	19	32	2.58	− 1.26	1.59	0.0	9	21	8	2	sw.	Wm. Breiner.
Robinson	Crawford	500	10	76.8	+ 0.5	93	6†	54	17	30	9.60	+ 4.69	3.72	0.0	10	17	13	1	sw	A. P. Woodworth.
Sumner‖	Lawrence	459	4	76.8	.....	92	25†	56	20	26	9.61	.....	2.81	0.0	8	12	13	6	s.	O. A. Fyffe.
Tuscola	Douglas	644	17	75.4	+ 0.2	96	25†	51	20	35	6.59	+ 2.69	2.32	0.0	11	14	5	12	sw.	E. W. Lester.
Urbana‖	Champaign	725	8	74.8	.....	93	25†	54	19†	30	2.76	.....	1.03	0.0	8	9	19	3	sw.	Prof. J. G. Mosier.

a, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
* Precipitation included in that of the next measurement.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
‡ Separate dates of falls not recorded.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
‖‖ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
‖ Estimated by observer.
Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for July, 1910. District No. 3, Ohio Valley.*

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
New York.																																	
Allegany	Allegheny							.43			.18		1.02	1.1			.59							.03	.06			.20			.22		3.84
Bolivar	do							.81			.16		.72	.89			.22	.13						.04					.14				3.11
Franklinville	do							1.05			.23		1.05	.38			.11							.18		.35	T.				.60		3.95
Olean	do								.45			.55		1.45				.62								.15			.02		.10		3.34
Pennsylvania.																																	
Aleppo	Ohio			.55				2.07			.05		.14	.80				.04								T.		.10	.64		.76		5.15
Baldwin	Allegheny				.08		T.	.65			T.	.85	.21				.07							T.				.23	.83		.17		3.09
Beaver Dam	Ohio			.02	T.			.14	.30			.18		.58				1.38								T.		.08	.20		.01		2.89
Bradford	Allegheny						T.	.06			.38		.77	.80				.92								.47			.44		.16		4.00
California	Monongahela																																
Clarion	Allegheny																																
Claysville	Ohio			.07	.06		T.	1.85	.02		T.	T.	T.	.18			.26										.08		.20		.16		2.88
Confluence	Youghiogheny			.28	.14			.50	.30			.42		.40	.10			.08									T.				.48	T.	2.70
Davis Island Dam	Ohio			T.	T.			.74	.22		T.	T.		.40		T.		.10									.08		.24		T.		1.78
Derry Station	Allegheny			.04				.79			T.		.03	.84				.51									.04						2.25
Franklin	do				.06			.74	.12		.08	.14		.32				1.14						.62				.06	.08		.10		3.46
Freeport	do				T.			.52	.54			.09		.74	T.			.71									T.	.09			.03		2.72
Greensboro	Monongahela			.28				1.10	.70			.08		.40	.08		.40										.08		.20		.86		4.18
Greensburg	Youghiogheny			.09	T.		T.	1.56	.02		.09		.04	.60				.31								T.	T.			T.			2.71
Greenville	Ohio			.04			.07	1.21			.02	.04	.97	.03									.27	.01				.10	.28				3.04
Grove City	do			.40			T.	.78			T.	.67	.21	.12			.15							.02			12	.31		.05		2.83
Herrs Island Dam	Allegheny			.10	.06			.53	.58			T.		.36			T.	.09							.25		T.	.02	.17		T.		2.16
Indiana	do							.94					.12	.80			1.28	.02						.04				.08					3.28
Irwin	Monongahela			.13	T.		.06	.71	.01				.10	.28				.45									.08		.01				1.83
Johnstown	Allegheny			.07				.32			.15			.46			.02	.14	T.								.01		.06	T.	T.		1.23
Lock No. 4	Monongahela			.10	.05			.65	.10			.03	.60	T.			T.	.10									.01		.02		.20		1.86
Lycippus	Allegheny				.30			1.62	.10		.40		.05	.62			T.	1.10	.03														4.22
Parkers Landing	do				.14			.16	.04		.04	.44		.24				.78							32			.04	.18		.56		2.94
Pittsburg	Ohio			.07			.14	.49			T.		.25	.02			T.	.02						.13		.01		.13		T.	T.		1.26
Saegerstown	Allegheny						.02	.63	T.		T.		.92	.13				.47					.25	.03		1.45		.08			.85		4.83
Saltsburg	do			.02	.01			.42	1.30		.02	.02		.38				.12							T.		T.	T.	T.		T.		2.29
Skidmore	Ohio							1.00					.50											.75				.10					2.35
Somerset	Youghiogheny			.21	.11			.90		.15			T.	.26				.92													.10		2.65
Springdale	Allegheny				.02			.41	.28					1.20				.20									.03						2.14
Uniontown	Monongahela			.21	.04		T.	.64	.04		T.		.08	.57			.14	.59									.05		.02		.46		2.84
Warren	Allegheny							1.26					1.36	.44				.40					.04			1.00			.10		.30		4.99
West Newton	Youghiogheny			.10	.04			.56	.02			T.		.76	T.		T.	.14		T.							.04		T.		.08		1.74
Maryland.																																	
Deer Park	Youghiogheny			.25			.27	.15						.72													.14				.78		2.31
Grantsville	do																																
Oakland	do			.28	.22		.02	.60	.04		.12	.01	.03	.56			.06	.13		.03								.08	.06		.95		3.19
West Virginia.																																	
Bancroft	Great Kanawha				1.72	.04	.40	.54	.24			.55		.50	.05			.39									T.		.69		.10		5.22
Beckley	do				2.10	.70	2.50	.03			3.15			.33		.40	.53	.50									.20						10.44
Ben's Run	Ohio			.20			.08	.30			.86	.02	1.17	.17		.41	.05																3.26
Bluefield	Great Kanawha		.40		.47		.36	.10	.13			.12		.82	.10	.03		.57	.60					.36	.20				.10		.25		4.61
Brandonville	Monongahela		.67	.09				.90	.48	.04	.43	.32	.35		T.			.21								T.					.60		4.09
Buckhannon	do			1.30	.10			.05			.60		.80	.75		.70		.20											.55		.26		5.31
Cairo	Little Kanawha			.10		.05		.42				.85		.05					T.												.22		1.69
Central Station	Middle Island Creek			.11	.02		T.	.85	T.		.47	T.	.27	.63		.34	T.	T.									.69		.04		.42		3.84
Charleston	Great Kanawha			1.08	.22	.12	.25	.50	.05		.51		.28	.04		.09	.50	.28									.20		.96				5.18
Creston	Little Kanawha			.04				.76	.07			.32		1.02			.03	.08											.77		.04		3.13
Cuba	Sand Creek			.90	.02	.05	.27	.68			.71		.66	.60		T.	.07	.04					T.					T.	T.		.21		4.21
Davis	Monongahela				.40			.90			.50			.65																.65		3.10
Elizabeth	Little Kanawha																																
Elkhorn	Big Sandy			.01	1.74	1.21	.15	1.45		T.	.15			.52	.30	.12	.25	.85	.03				T.	T.					.16	.30			7.24
Elkins	Monongahela			1.04	.11		T.	.34		T.	.01		.95	.35	.37	.11	.01	.13	.02								.04	.45	.02		.12		4.07
Fairmont	do			.98			.05	.75	1.20		.23	.50		.43				.36											.38		.65		5.53
Glenville	Little Kanawha			.10	.23			.18				.17		1.09	.16			.86						.34					.16		.12		3.41
Grafton	Monongahela			1.32			.11	.89	.28	.19	.02		.09	1.04				T.										T.		1.21		5.15
Green Sulphur Springs	Great Kanawha		T.	.01	1.02	.39	.43	.11	T.	.06	.10		.05	.07	.31	.16	.07	.79	.95							.10		.06		.12		4.80
Hinton	do				1.40	.58	.12	.10	.06	.04	.04	.02		.30	.50		.01	.52	.90	.04						.02		.02		.10		4.77
Huntington	Ohio				.44	.70	.16	.82	.18	.06		.70		.56	.32			1.14	T.								.28		.78		.54		6.68
Lewisburg	Great Kanawha		.13		.85	.21	.37	.03		T.	.41		T.	.43	.36	.03	T.	.24	.95								.05		.53		.10		4.69
Logan	Guyandotte		.05	.10	2.15	1.45	.50	1.10	.15	.03	.28			.12		.12	1.28	.30	3.15								.84	T.	.12		1.42		13.16
Lost Creek	Monongahela			.19	.04		.03	.64	.12		.57		.77	T.		.15	T.							T.				T.	.93		.55		3.99
Madison	Great Kanawha																																
Mannington	do			.80				1.24	.01		.10	T.	.20	.37			.02	T.								T.		.05	.65		.58		4.02
Marlington	do				.84		.67		.06				3.07		.48			.66	.70								.41		.06		.14		7.09
Morgantown	Monongahela			1.10	T.		.25	1.10	.05		.07		.04	.47			.14	.02											.39		.45		4.08
Moundsville	Ohio			.60	.06		T.	.69			T.		.40	.85													.09	.07	.72		.85		4.33
New Cumberland	do			T.			T.	.50			T.		.30	1.40				T.								T.		.10	.05				2.35
New Martinsville	do			.24	.05		.02	.80			.31		.56				.19											.17	2.27		.14		4.75
Nuttallburg	Great Kanawha				.59	T.	.61	.38	.12	.30	.08		.17	.73	T.	T.	.12	.41	.88						43			.38			.12		5.32
Parkersburg	Ohio		.01	.60	.19		.28	.01		.01	.24	T.	.37	.63		T.	.32	T.					.02					.29		.01	T.		2.98
Parsons	Monongahela			.20	.50		.02	.65			.54		T.	.80	.23					.05								.12			.78		3.89
Philippi	do			.80	.05		.05	.73	1.06	.02	.10			.80	.02	.03	T.	.51		.02						T.		.02	.08	.03	.80		5.12
Pickens	do			.64	.41		.05	.68			.56	*	.31	1.00		.02	T.	T.						T.			.77		1.68		.62		6.74
Pineville	Guyandotte			.65	1.77	1.17	.51	.27	.03		.23				2.03	.03	.56	.28	2.03	T.				.36	.06		.10		.46				10.54
Point Pleasant	Ohio			.44	.26		.18	.60	.22		1.12	.06		.50	.06			.32											.88		.32	.66	5.62
Powellton	Great Kanawha																																
Princeton	do		.30		.70	.65	.68	.54			1.22			.56			1.45	1.00						.50						.10			7.70
Robertsburg	do				.13	T.	.14	.82	.59		.08	.78		.60	.19			.20									.34		.47		.63	.45	5.42
Rowlesburg	Monongahela			.26	.10			.50	.40			.04		.50	.42				.08										.20		.76		3.26
Ryan	Great Kanawha			.35	.53	.04	.29	.28	.03		.61		.69	.12		T.	.08	T.									.04		.17		.60		3.83
St. Marys	Ohio				.60	.07		.22				.35		.35				.25											T.		.06		1.90
Smithfield	Fishing Creek			.54	.08	T.		2.13	.03			.08		1.83				.06								.03			.30		1.23	.47	6.78
Spencer	Little Kanawha							.55	.15			.76		1.94	T.	T.		.14											.04		.25		3.83
Sutton	Great Kanawha			.40	.50		T.	T.					1.65	1.12		1.00	.33	T.										T.					5.00
Terra Alta	Monongahela				.30		.26	.84	.36				.65					.38					.46	.51						.64			4.40
Union	Great Kanawha			.73	.15	.40	.15	.13	.07	.22	.10	.19		.22	1.58	.08			.90						.13		.08		.25		.22		5.60
Valley Fork	do				1.35						.85		2.00		.15															.30		4.65
Webster Springs	do			.20	.50	.40	.50	.52				T.		1.10	.15	.35	.25	.10	T.					.10					.45				4.62
Wellsburg	Ohio			.75			.03	.48	.03		.03		.60	.15			.13	.25								T.	.12		.06				2.63
Weston	Monongahela			.18	.27		.24	.10				.30		.16			T.	.02						T.					.90		.60	.28	3.06
Wheeling	Ohio			.10	.64			.36	.26		.16	.02		.54			.46										.02	T.	2.26		.04		4.86
Williamson	Big Sandy				.72	.88	.24	.46	.08	.04		.38		.18	.08			1.20	.14								.14		.82		1.22		6.58
Ohio.																																	
Amesville	Ohio			.97	.02		.96	.51	.01		.46		T.				T.											T.	.28		T.		3.21
Bangorville	Muskingum			.92			.41	.49		.02	.15				T.	T.												.35	.10	T.			2.44
Bellefontaine	Great Miami			.22	.05		T.	.55	T.		.11		.05	.44			.51	.03										.02	1.21				3.19
Bladensburg	Muskingum			.33			T.	.54		.80		.05	.16			T.															.20		2.08
Cadiz	Ohio			.28			.24	.20			.04		.51	.44		T.	1.45										T.	2.10		.02			5.28
Cambridge	Muskingum			.13			.17	.49			.40		.11															.48					1.78

TABLE 2.—*Daily precipitation for July, 1910. District No. 3*—Continued.

Stations.	River basins.	Day of month.																														Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Ohio—Cont'd.																																	
Camp Dennison	Ohio			.12	.01	.35	1.17		.01	T.	.93	.12	.33	.29			.81	.14										.20	.08				4.56
Canal Dover	Muskingum			T.			.21	.53			.21		.73	1.18		T.	.40	T.						T.				1.06	T.				4.32
Canton‖	do						T.	1.43	T.			.01		.60			1.11	.19										.42	.61				4.37
Cardington	Scioto			.65			.07	.28		.48	.13		.75			T.												1.10		T.			3.46
Chillicothe‖	do				.51						.32																		1.65		.02		2.50
Cincinnati	Ohio				.02	.31	.45		.03	.02		.01	.59	.16			1.07	.91										.05					3.62
Circleville‖	Scioto			.44	.32	T.		.59	.09		1.03	.04		1.12			.24	.16										.13			.27		4.43
Clarington	Ohio			.82	.11		.08	.72	.04		.02		.52	.37			T.											.08	2.14				4.90
Columbus	Scioto		.02	.77			1.20			.02		T.	.04			.12	.15										.08		T.	T.		2.40
Coshocton‖	Muskingum				.48			.65						1.10			.06												.19		.02		2.50
Dayton‖	Great Miami			.06	.15		.08	.24	T.		.53		.05	.42			.88	.16						T.				.92	.13				3.62
Delaware	Scioto			.25			.35	.15		.02	T.		.40	.03		.20	.01							T.				.19	.90	T.			2.50
Demos	Ohio			.17			.07	.72			.28		.38	.20			.03									T.	.01	.08	1.10		.16		3.20
Dennison	Muskingum			.22			.27	.78	.03		.02		2.43	.18		T.	.43											.11	.44				4.91
Frankfort	Scioto			.90			.75						T.	.30			.35							.40				.20	.23				3.03
Garrettsville	Mahoning						.03	.08			T.		2.03				.13	.02						.63				.42					2.80
Granville‖	Muskingum			.19	.02		T.	.55	.02		.37	.20		.11			.01	.10										.14	1.00		.11		2.82
Gratiot	do			.16			.33	.45		.28	.11		.20				.40											.08	.03		.08		2.21
Green	Ohio			T.	T.	1.50	2.31	1.47		.68	.42		.50	.40	.40		1.05									.42	.36						9.51
Green Hill	Muskingum			.45	.02		.13	1.22	T.		T.	.05	.15	.19		1.55	1.64	.01										.69					6.09
Greenville	Great Miami			.09	T.		.07	.13			.23		.23	.19			.82	.25	.01									.02	.02				2.06
Hillsboro	Scioto			.91	T.	.08	2.54	.89		.16			.41	.03			.84	.13										.60	.61	.02			7.22
Ironton	Ohio				.70	.62	.80	1.12	.10		.71		.89	.44			.30	.01									.40	.12	.49		.09		6.88
Jacksonburg	Great Miami			.10			.70			.25		T.	.30				1.77	.08					.30					.20					3.70
Kenton	Scioto			1.64			.04	1.42		T.			.31			.11											.40					3.92
Killbuck	Muskingum			.46			.40	.74		T.	.18		.26	1.00			.33											.28					3.65
Lancaster	Ohio			.67	1.00	T.	.42	.06		.06	T.		1.54	.03		.15	.12										.08	.60	.40			5.13
Lawshe	do			.26	.02	.25	1.00	.75	.09	.03	.28	.02	.09	.50			.70	.03	.04							.06	.18	.67	.22	.01			5.20
McConnelsville	Muskingum			.34	.04		.40	.13		.01	.15	.01	.45	.03		.03	T.	.03							T.			T.		T.			1.62
Marietta	Ohio			.26	.03	.17	.10	.44			.54		.46	.05										.16					.04				2.25
Marion	Scioto			T.			T.	.53		T.	T.		.48			.02											1.28					2.31
Milfordton	Muskingum			.06			.42			.45	.10		.50	.31		T.	T.									.23		.07	.02			2.16
Milligan	do			.28			.36	.70		2.80	.03		.03	.36		T.	.06											.31					4.93
Millport	Ohio				.17		.18	1.00					.03	.30		.28	1.00	T.										.40	1.00				4.36
Nellie	Muskingum			.43			.31		.42				T.															.17		.15			1.48
New Alexandria	Ohio			.25							1.00		.25				.50								.10	T.	T.						2.10
New Berlin	Muskingum						.34	.36					.33			T.	1.23	.23										1.10					3.59
New Waterford	Ohio				.10				1.53			.10	T.				.10									T.							1.83
Ohio State University	Scioto			.43			.74	1.59		.02		T.	.18	.01		.01	.19								T.			.14					3.31
Pataskala	Muskingum			.48			.45	.02		.90	.04		.17	.04		.33	.22								T.			.76		.09			3.50
Philo (1)	do			.12			.73	.72		T.			.10	.34		T.	.13											.28	.02	T.			2.44
Piqua‖	Great Miami			1.91						.32			.34				.81											1.05	.49				4.92
Plattsburg	do			.55			.43			1.37			.66				.65	T.							T.			.52					4.18
Pomeroy	Ohio																																
Portsmouth‖	do			.03	.36		.28	.50			.17	.07	.03	.36	.11			.44	.08								.03		.31		.56		3.33
Prospect‖	Scioto		.42					.80			T.	.75					1.16												.30			T.	3.43
Rittman	Muskingum						.40	T.			.10		.09			.28	T.											1.07					1.94
Shenandoah	do						.75			.50			.51					T.								.36		1.72					3.84
Sidney	Great Miami			.15			.63	.08		.17	.10		.78	.03		T.	.02											.55		.19			2.70
Somerset‖	Muskingum			.08	.15		.01	.47	.02			T.		1.00			.20	.17								T.	T.	T.	.67		T.		2.77
Springfield	Great Miami			.55			.12	.07		.10	.01		.42				.78							T.				.16	T.				2.21
Summerfield	Ohio			.04	T.		.26	.68			.23		.81	.12			.38										.03	.56		T.	.11		3.22
Thurman	do			2.00		.15	.30	.55			.45		.36	.13			.25								T.			T.	.28	.20			4.67
Urbana	Great Miami			2.42			.10			.14			.60			T.	.50											.51	T.				4.27
Warren	Mahoning						T.	.22		.03	T.		1.49				.28							T.		.08		.22					2.32
Waverly‖	Scioto				.12	.30	.02	.06	.89	.11		.15		.19	.04		.01	.23										T.	.36		.70		3.18
Waynesville	Great Miami				.88		.07	.22	.20		.74	.07	.21	.02			.95							.20				1.43	.57				5.56
Wooster	Muskingum			T.			.07	.17			T.		T.			T.	.05	T.										.38	.45				1.12
Youngstown‖	Mahoning					1.90		.48			T.	T.		1.48				.33							T.			.23	.18				4.60
Zanesville‖	Muskingum			.09	.28		T.	.50	.05		.02			.32			.02	.18								T.	T.	.40		.02		1.88
Virginia.																																
Big Stone Gap	Tennessee	T.		.40	.55	.15	.40	1.45			.21	T.		.20	.14	.11	.05	.35							.10		.10	.20	1.00		.10		5.51
Blacksburg	Kanawha			.20	.80	.55	.62	.23	.02		.26		.42	.15	.10	.04	.55	2.75	.31					.10	T.				.05				7.15
Burkes Garden	Tennessee				T.	.88	.22	.30			.46	.35		.15		T.		.85	.13					T.			T.		.27	.36			3.97
Elk Knob	do	.11	.36	.89	.35	.29	.30	.86	.02		.97	.01		.49	T.	.04	.09	.57	T.							.02		.28	.37	.89	.03	.46		7.40
Galax	Kanawha			.30	.57	.36	.30	.12			.05	1.20	.30	.30	.20	.60																	4.30
Ivanhoe‖	do			.08	.68		.13	.10	.05	.11				.96	.55	T.		.33	.15	.08			T.	.06		.22		T.	.07	T.		.02	3.59
Lebanon	do				.86		.56	.64	1.06	.02	.30	.56		.54	.25		.15	.21	.01						.60		.26		.48	.16			6.48
Marion	Tennessee			.18		.16	.16	.77	.45	.09	T.	.72	T.	.25		.07		1.22						.18					.51	T.			4.76
Max Meadows	Kanawha																																
Mendota‖	Tennessee				.28		.48	.40	.05			.45		.15					.40	.16		.50			.42		.18		.90	.16	.14		4.67
Radford‖	Kanawha				T.	.22	.12	.16	.30	.28				.26	.30	1.20		1.30	.60	.10						T.		.18					5.02
Speers Ferry‖	Tennessee			.16	.28	.22		1.84			.28	.42		.34											.28		.18	.12	.84	.98	.74		6.68
Wytheville	Kanawha		.03	.48	.04	.25	.40	.15			.04	.12	.02	.10			.46	.16	.38	.01			T.		.38		.01		.06		.15		3.24
North Carolina.																																	
Altapass‖	Tennessee																																
Andrews	do	.14	.39	.51		.69	1.17	.57	.50		.24	.08	.58	.49	.01		.35	.46						.08	.15		.13	.20	.43		.45		7.62
Asheville	do	.11	.06	.20	.70	.20	.50	.50	.28	.03	.39	.03	.02	.11	.05	.28	.03	.13							.10		.01	.01	.73	T.	.18		4.65
Banners Elk	do				.51	.27	.59	.50	.39			T.	.30	T.	.10		.30	T.	.77	.05				.07	.43	.18			.48	.58		.23		5.57
Brevard	do	.15	.70	.30	T.	.16	.30	.42	.19	.88	.20	.24	.69			.25	.85	T.	T.	T.			T.					.54	.10	.30	.54			6.81
Bryson City‖	do	.61	.48	.28	.20	.36	.91	.81	.42	.04	.08	.02	.39	.25	.31	.21	.08	.41	.04					*	.03				*	.21		.97	.48	7.54
Cullowhee	do	.02	.30	.60	.02	.20	.53	.05	.07	.01		.10	.04	.03	.33	.12		.05					.11					.30	.83	.34		1.02		5.07
Hendersonville	do	.55	.22	.22	.17	.10	.50	.47	1.35	.22	2.10	.70			.20		T.	.40		.29						T.		1.38		.28		.43		9.58
Highlands	do	.74	.95	1.04	.50	.30	.84	1.10	.65	.15		.47	.22	.12	.50	.01	.01	.01						.01	.01	.02	.15	.07			.10		7.97
Hot Springs	do	.03		.18	.55	.35	1.36	.35	.01	.15	.41	.02	1.45	.40	.03	.05	T.	.28	.01					T.	.01		.27	.06	1.72		.30	.39	8.38
Jefferson	Great Kanawha		.13	1.81	T.	.45	.18	.18	.08			.12	.92	T.			.62	.63	T.					T.				T.	.43		.03		5.89
Marshall	Tennessee			.58		.45		.35	.65		.46	.10		.32	.10			.15									.05	.50	1.10				4.81
Murphy‖	do	.50	.60	.35	.99	.28	T.	.98	.93	*	T.	1.35	.85	*	.30	.99	.41			*	T.						.20	.48	*	2.00	*	.07		11.28
Rock House	Savannah	1.07	.41	1.45	.50	.62	.60	T.		1.69	.42	.11	.15	.64	.43	.04	.04	.09	T.		T.		T.		T.	.13		.13	.06	.01		.48		8.47
Waynesville‖	Tennessee	.02	.08	.55	1.15	.03	.45	.21	.11		.09		.03	.20	.04	.65	.12	.43	.24	T.				.21	.05			.46	.45	.04	.42		5.43
Georgia.																																	
Diamond	Tennessee			.44	.15	.82	.26	.95	.09	.24	.02	T.	.07	.45	.08	.72	T.	.20	.19	T.	.36		T.	.11	.62					T.	.07			5.24
Lafayette	do																																
Alabama.																																	
Bridgeport	Tennessee	.73	1.06	.36	.13	.61	.84	.17	.07			.49			.52	.14	.91	1.00	.01									1.07		.01	.22		8.34
Decatur	do	.43	.67	.27	.07	.20	.40	.30	.47	.05	.13	T.			.04	T.		.47	.59	T.					T.	1.23		.26			.20	.60	6.38
Florence	do	.18		1.70	.04	.78	.04	.56				.59			.10	.04	.24	.38	.80									1.34					6.40
Guntersville	do	.18	.48	.36	.14	.06	.40	.28	.06	.04	.56	.16		.94	3.40	.52	T.	.68	.06	T.						T.		.42			42	.02	9.18
Madison	do		.07	.25	.20	.58	.60	.10	T.	.05	T.	.34		T.		T.	.50	.51	.33						.04		5.33				18		9.08
Riverton	do	T.	.10	.36	.27	.62	1.08	.58				.74	.28		.34	.44		.08	1.57						.12			.68					7.26
Scottsboro	do	.14	.10	.09	.05	.25	.84	.90	.51	.03	T.		.23	.02	.07	T.	1.80	.85	.05					.18	.15	T.			.82				6.58
Tuscumbia	do	.20	.03	2.30	.18	.79	.08	.71		.06		.86		.25	.16	.95	.07	.16	.99									.12					7.91
Tennessee.																																	
Ashwood	Tennessee	.20	1.10	.20	.20	.75	.10	.15						.50	.35		.85	.50	.15						.15		T.				.30		5.50

TABLE 2.—*Daily precipitation for July, 1910. District No. 3*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Tennessee—Cont'd.																																	
Benton	Tennessee	.04	.51	.08	T.	.58	1.77	.38	.48	.07	.08			T.	.25	.23	.38	.60						.08			.06	1.10	T.	.50	.10		7.29
Bird's Bridge	do			.35	.16	.16	1.25	1.15	.52	.07			.01	.08	1.68			.10	.28						.24	.21	.22		1.58	.04	1.58		9.68
Bluff City	do			.78			1.30	1.36	.50	.06		.04		.34	.20		.14	.26	.12								.14	.30	.64	.04	.40		6.62
Byrdstown	Cumberland	.20	.50	.20			1.20			.45	.30	.90		.90			1.50							.10				.30	.20		1.20		7.95
Carthage	do	.10	.08	.15	.06	2.00	1.35	.26	.10	.02	.05	.50	.01	1.20	.08	.04	.20	.58	.82								.80			.30	.08	.14	.02	8.94
Cedar Hill	do	.15	.70	.20	.10	.25	1.15		T.	.25	T.	.15	.20	T.	T.	.05	.80	1.10							.25			.55		.40	.15		6.45
Celina	Cumberland		.45	.43		.26	.32	1.22	.03		.25	1.27		.58	.18			3.50	.13							.05			.60	.12	.45		9.84
Center Point	Tennessee	.05	T.	T.	.60	T.	1.33	T.	1.25	T.		.25		.45			.65		.20	T.						.25					.89		5.92
Charleston	Tennessee	.18	.60	.15	.07	.97	30	1.70	.10	.50	.10	.02		T.	.02		.80	.30							.11			.12	.18	.80	.90	.25	8.17
Chattanooga	do	.05	.66	.09	.08	.59	.84	.09	.35	.01	.01	.02	.16	.13	.03		.14	.15									.01	.02	.01	.62			4.06
Clarksville	Cumberland	.38	.43	.03	.17	.72	.31	.10		.62		.24					.51	.44	.08						.17		.32						4.52
Clinton	Tennessee		T.	.45	.30	T.	1.25	1.20	.05		T.	.10	T.	.10	.13	T.	.10	.45	.05								.45	.15	.20	T.	.50	T.	5.48
Dandridge	do		.02	.04		.60	.80	.30							1.00	.04	.06							1.00			.20			.80		4.86
Decatur	do	.08	.68	.32	.15	.36	.71	.07	.18	.22	.15	.01	T.	.88		.65	.01	.22	T.							.16	.01	.05	.02	.19	.18		5.30
Dickson	Cumberland	.20	.45	.03	.14	.13	1.05	.06		.20	.42	.24	.16				.92	.70	.25						.04		.34				.23		5.32
Dover	do	.20	.45	T.	T.	.43	.32			.81	T.		T.				.37	.77							T.		.32		T.				3.67
Dunlap	Tennessee		.20	.16	.12	.28	.85	.17	.44	.03	.05			.44	.22	.55	.14	.15					.06		.15		.24	.18	.13	.84	.08		5.48
Elizabethton	do			.63		.21	.46	1.30	.60	.01				.45	.66		.13	.23	.07					T.			.14	1.05	.78		1.15		7.87
Erasmus	Cumberland	.04	.10	.43	T.	.56	.25	.98	.20	.69	.05	T.	.14	.04		.59	.77	.37							.25		.07	.27	.12	.86	.56		7.34
Florence	do	.49	.13	.52	.19	.21	.04	.12		.31	T.		.01	.33	.22	.60	.73	.47							T.		.12	.12	T.	.13	1.02		5.76
Franklin	do	.12	.18	.22	T.	2.01	.26	T.		.75			T.	T.		.48	.35	.36	.38						1.55		T.				.38		7.04
Hall's Hill	do	.20	.05	.45	.09	.40	.30	.75			.17	.12	T.	.12	.85	T.	T.	.58	.10										T.	.24	1.10		5.52
Harriman	Tennessee	.60	.74	.79	T.	.62	.85	T.		T.	.15	T.		2.89	.15	.31	.24	.17							T.		.99	.13	.20	.22			9.05
Hohenwald	do	.20	.16	.22	.16	.56	.65	1.62		.10		.15	.21	.35			.70	.84	.11						.50		.26				.77		7.56
Iron City	do	.63	.10	.18	.67	.64	.78	.08	T.			.05	.10	.35	T.	.65	.07	.07	.78						T.		1.80			.18			5.93
Jefferson City	do	.05	.07	.31	.05	.47	1.07	.13		.32	.03	.01	.12	.01	.18	.01	.06							.14	.17		.26	1.10		.01	.37	.06	5.00
Johnson City	do	.03	.14	.06	.03	.65	.95	1.34	.03		.02			.45		.17	.31	.20						.01		.01	.19	2.03	.02	.67	.23		7.54
Johnsonville	do	.08	.12		.26	2.08	.48	.12	.60	.82	.50		.30	.04			.39	.60	.12						1.24		1.16				1.08		9.99
Jonesboro	do					.20	1.45	.20	.50		.22			.54		.16	.39	.38						.02	.02			.98	1.08		.48	.14	6.76
Kingston	do	.19	.34	.15	.16	T.	.35	.62	T.			.14	.02	.13	.80	.01	.65	.07								T.	.10	.04	.18		.57		3.92
Knoxville	do	.04	.23	.66	.01	.66	.64	.04			.50			1.30	T.	.25	T.	.02									.27	.04	T.	.02	.41		5.09
Lebanon	Cumberland	.10	.20	.15	T.	.53	.50	T.		T.	1.36	.18		2.20	.31	T.	1.12	.08	.06						1.38		T.		.50	.60	.50	.11	9.88
Lewisburg	Tennessee	.26	.49	.08	.24	1.00	.01	.63			.04	.16		.59		T.	2.00	1.76	.08								T.				.16		7.50
Livingston	Cumberland																																
Loudon	Tennessee	.33	.08	.44	.10	T.	.97	.58	.04	T.	T.	.16		.70	3.30		T.	.18							.03			.02	.26		.53		7.72
Lynnville	do	.29	.19	T.	.31	.48	.08	1.61	.02	.43	.13	T.	.28	.02	.18	.24	1.30	.87	T.						T.		2.43				.57		9.43
McGhee	do	.15	.30	.35	.05	T.	.95	.55				T.			.15			.15							T.				.35		.40		3.40
McMinnville	Cumberland	.29	.01	.15	.03	.76	.15	.60		.02	.15	.02		.60	.08	.45	.40	.97	.05					T.	T.		.16	.06	.12	.64	.80		6.51
Maryville	Tennessee	.25	.11	.03			.60	.49			.01			.35	1.07	1.00		.44						.02			.64	.15	.05	T.	.55		5.76
Mountain City	do				.16	2.40	.60	1.08	.12			.28	.05	.27			.35	.60	.18					.88	.18				1.55		.23		8.93
Nashville	Cumberland	.24	.32	.25	.49	.25	.19			.30	.18		.09		.43	.25	.75	.59							.01		.06		T.	.05	T.		4.45
Newport	Tennessee			1.00		1.00	.90						.70	.25	1.50	.25		T.						.20						1.00		6.80
New River	Cumberland				.70	.15		.20				.22	.15	.32	.35	.20	1.10	.50								.15	.30	.15			1.15		5.64
Palmetto	Tennessee	.21	.21	T.	.05	1.10	T.	1.63		T.	.43		.04	.65		T.	.95	1.09	T.								T.				.36		6.63
Pinewood	do	.10	.13	.03	.22	.67	.92		.60	.33	.93	.16	.15	T.			.22	.95							.04		.33				.16	.04	5.98
Pope	do		.80				1.30				.60			T.	.40		.90										1.30		1.60				6.90
Rogersville	do	T.	T.	.14	.52		.80	1.88	.38	.20		T.		.18	.10	T.	.44	.10	.02					.14	.38		.16	.04	1.14	.18	.86		7.66
Rugby	Cumberland	.03	.29	1.10	.09	.13	.36	.05	.06	.40	.06	.25		.54	.24	.03	.65	.32							.40		.06	.16	.06	.12	.77		6.26
Savannah	Tennessee	.20	.38	.10	.32	.60					.66	.20	.23	.36	.11		.28	.72	T.					T.				.82				4.98
Sevierville	do	.05	.03	.34	.22	1.02	.91	.68			.02			.20	.06	.77		.38						.16	T.		.28	.04	.07		1.01		5.64
Sewanee	do	1.00	.38	.11		.23	.68	.51	.10					.54	.44	.50	1.22	.19							.21		.18						6.29
Sparta	Cumberland	T.	T.	.40	T.	1.00	.35	T.	.83	.20	.27		T.	.90	T.	.25	.64	.32						.05	.75		T.	.32	.40	.72	1.47		8.87
Springdale	Tennessee																																
Springville	do	.32	.01	.58	.37	.20	.30	.05		.21							.70	.90	.30						.21		.86				1.12		6.13
Tazewell	do				.35	.06	.46	.65	.20	.18		T.		.22	.82	.10	1.18	.52	T.								.33	.07	.46		.61	.20	6.41
Tullahoma	do	.27	.83	.41	.40	.43	.17	.28	T.	.07	.11		.10	.05	.09	.01	.69	.54	.10								.34	.04	T.	.02	.08		5.03
Walling	Cumberland	.05	.05	.01	.07	.08	1.02	.55	.47		1.03	.85		.05	.30	.05	.06	1.65	.06						1.04	.02			1.02	.55	1.10		10.08
Waynesboro	Tennessee	.12	.03	.05	.03	.83	.39	.45		.04	.01	.90	.85	.14	.17		.39	.20	.83	T.					1.55		.32						7.30
Wildersville	Cumberland	.06	.15		1.00	1.59	.40	.82				.25	.87	.11			1.05		.16					.55	.15		.50			1.02		8.68
Worsham	do	.29	.12	1.05	.12	.79	.90		.08	.03	.50		.82	.34			.50	.43							1.03	.05	.06		.80				7.91
Yukon	do	.06	.02	.25	.10	.80	.08	.50		.05		.10		T.		.10	.20	.78	1.00						.55		1.35				.50		6.44
Kentucky.																																	
Alpha	Cumberland	T.	T.	.20	T.	.85	1.15	.10		.58	.51	.40	.08	.65	.26	.36	2.00	.35	T.	T.	T.	.15	.19	.31	.15	T.	.47	.28	.38	.10	.06		9.58
Anchorage	Ohio	.42		.99	.25		.57				2.70	.05	.65		.10	1.60	.23							T.			.95	.36	.46				9.33
Bardstown	Salt		.56	T.	.35	.47	.23	.33	.07		.43	T.	.88	.22	.10	T.	.38	.53	.16							T.			1.53	1.12	.68		8.04
Beattyville	Kentucky		.08		.22	.56	.20	.38	2.20		.24	.20	.22	.18	.24	.14	.10	.86	.16							18	2.08		.38	.10			8.72
Beaverdam	Green		T.	T.	3.56	1.00	.35	.33		.15	.07		.05	T.	.05		.75	.21								40	T.		5.27	.80	.25		13.24
Berea	Kentucky				1.07	.22	.08	.58		.22	.42	.70	.30	1.70	1.90		1.78	.44							.01		.28	.17	.43	.02	.51		10.83
Bowling Green	Green		.16	.05	T.	.05	1.20	.74	1.66	1.08	1.06	.05		.17	.78		.05	.62	.10							50			40	1.80	.20		10.67
Burnside	Cumberland		T.	T.	2.50	.12	.14	.78	.10	.24	.04	.34		1.40	1.14	.20	T.	2.22	.02							44	.24	.04	.12	.26	.20		10.54
Cadiz	do	.08	.48	.05	2.05	.12	.51			.15	.39		1.62			.04	1.17	.62	.31								2.65			.37			10.61
Calhoun	Green	T.	T.	.30	1.61	2.58	.15	.08	T.	.32	1.01		.03	.49	.08		1.99								.20		.75		.07	30	1.09		11.05
Catlettsburg	Big Sandy				.94	.04	1.06	1.04	.10	.30	.10	.10	T.	1.10	.30	T.		2.20	.02								.60		.86				8.76
Earlington	Green	T.		.10	2.50	.72	.79	T.	.20	.05	.36			.05			.83	.17	.41						1.55	.42	.14		3.17	.55		12.01
Edmonton	do	T.	.12	.10		.50	2.05	.75	.02	1.57	.17	T.	.11	2.33		.16	1.11	1.37							.12			.87	.35	.25	.18		12.13
Eubank	Cumberland				.83	.69	1.12	.58	.46	.12	.09	.18	.08	.39	.64		.34	.94	.08							.41	.19	T.	.17	.36	.70		8.37
Falmouth	Licking			.24	.36	.28	.35	1.66	.12	.52		.05	.02	.60	.10		.30	.48	.81							T.	.30	.16	.24				6.59
Farmers	do		T.	.21	.72	T.	1.36	.48		T.	.09	T.	1.40		T.		.69	.19	.10						.31		.06	.67	.50		.15		6.93
Frankfort	Kentucky		.41	.04	.93	.43	.41	1.20					.38	.57	1.34		T.	.92	.17								.45		.39	.84	.14		8.62
Franklin	Green	.36	.30	.90		.21	.84	.05	.39	.36	.05	.49	.15	.32	T.	T.	2.64	.74							.28		.15		.22	.75	.16		9.36
Greensburg	do		.04		1.20	.21	.58		.09	.05	.20	.14		.66	.18		.07	.46	.12						.58		.01	.01	.72	.52	.38		6.22
High Bridge	Kentucky		1.10	.08	.25	.60	.45	.51			.04			.08	1.04	.03	.05	.44	.30							10	.40		.60	.75	.13		6.95
Hopkinsville	Cumberland			.05	1.00	.85	.95	.25			.55			T.			.20	1.05	1.90							T.		.68		.05	.50		8.03
Irvington	Ohio		.84	.37	.35	.85	1.06	.26	.62	.03	.16	T.	.34	.40			1.40	.22							.19	.11			.72	.81			8.73
Leitchfield	Green	.02	T.	.87		.85	1.04		.30	*	.16		.17	.66			.62	.01							.78		.22	*	.73	.55			6.98
Lexington	Kentucky		1.22	.53	.78	.26	1.14	1.19		.06		.43	.40	.17	.03		.24	.24						T.	.07	.19	.31	.17	.15	.08			7.66
Loretto	Salt		.08	.03	.54	.14	.30	.11			.46	T.	.81	.73			.64	.65							.24			1.03	.18	.27			6.26
Louisville	Ohio	T.	.73	.07	.58	.48	1.72			1.46	.20	.30	.06	.54		.15	1.80	.29							T.	.30		.34	.57	.62			10.21
Marion	do	.13	T.	.86	.42	.25	.30			.13			.34	T.			3.08	1.96							T.		1.88		T.				9.35
Maysville	do			.47	.20	.10	.50	.97		.02	.10	.22	.02	1.45	.48		T.	1.80	.18							.47	.25		2.64				9.87
Middlesboro	Cumberland	.02	.21	.11	.30	.06	.31	.50	.30	.44	.03	.03	.02	.35	.36	.35	.44	.52									.30	.18	.12	.03	.42	.08	5.48
Mount Sterling	Licking			.21	2.24	.50	2.09	1.10	.39	.11				.09	.51	.17	.12	.82	.13								.33		.54		.24		9.59
Owensboro	Ohio			.42	2.10	.98	.50	.02			1.10			1.18			1.65	.30								18	.03		2.00	1.75	.50		12.71
Owenton	Kentucky		.64	1.23	.57		1.65						.80		.35	T.	1.67	.35							.16	.17			.52				8.11
Paducah	Ohio	T.	.02	.10	.70	2.20	2.40	.10			.70	T.	.30	1.80			1.38	T.	1.30							T.	.40	.54					11.94
Pikeville	Big Sandy				.34	.16	.42	.26	.30	.10		.26		.30	.24		T.	1.50									.72		2.00		.50		7.10
Richmond	Kentucky		.04	.12	.51	.26	.54	.90	T.	.02	T.			.10	.20	.15	.03	2.20	.20							10	.22		.17	.73	.03		6.52
St. John	Salt		.40	.10	.40	1.60	.30	.66		.02	.03		.15	.54	.15			.67	.12										.03	.36	.30		5.83
Scott	Licking		T.	.40	.02	T.	.33	T.	T.		T.	T.	.11	.40			1.63	.58						T.			.01	.32					3.79
Shelby City	Kentucky		.31	.31	1.42	.31	.60	.40	.02	.01	T.	T.	.14	.42		.36	.62	.22						T.		.76	.14	.80	.16	.35			7.06
Shelbyville	Salt			.46	.96	2.36	.38	.57	T.	T.			.09	.95	.12		.20	.40	.59							.10		.03	.90	.86	.15			9.12
Taylorsville	do		1.10	.22	2.62	.57	.50	.01	T.	.16	.02	.24	.35	.09	T.	.01	.35	.14						T.			.08	1.68	.71	.34			8.59
Williamsburg	Cumberland		T.		.32		.32	.15		.09	1.65	.86	.24	.11	.28	.16	.30	.98							.15	.15	.48	.32	T.	T.			6.56
Williamstown	Licking				.22	.35	.24	.74	.16		.03		.15	.41	.02		.47	1.07	.50								1.18		.72		.04			6.30

TABLE 2.—*Daily precipitation for July, 1910. District No. 3*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Indiana.																																	
Anderson	West Fork, White		T.	T.		T.	.08			.12	.02	.02	.70	T.			1.50	.48							.14				T.	.14	T.		3.20
Bloomington	do		.04	.13	.18	.03	.35	.13	T.		.11		.47	.09			4.23	1.03	.62							.52		T.	.29	.38	.49		9.11
Bluffton	Wabash						.01			.40	.02		.56			.50												.37		.21			2.07
Butlerville	East Fork, White		.22	.23	.14	.73	.28	.27		.13	.44	.11	.47	.15		.12	1.48	1.21						1.17				1.27	.21	.14			9.77
Cambridge City	Whitewater			.01	T.		.55	.21			.09		.19	.22			1.40	.61	.40							.05			T.	T.	.02		3.73
Columbus	East Fork, White			.03	.02	.15	1.14	.30	.02		.52		.25	.39			1.18	2.07	.56					.21		.97		.01	.10	.04	.04		8.00
Connersville	Whitewater			.38	.04	.05	.27			.13		.93	.48	.02			2.23	.18					T.		.03	T.		T.		T.			4.74
Delphi	Wabash			T.	.25		.62				T.		.12	.02		1.75	.24	.52	.05					T.	T.	T.			T.	.09	.07		3.73
Eminence	West Fork, White			T.	T.	.83	.04			T.		1.30	.96				10	2.02	.75						.24				.40				6.64
Evansville	Ohio	T.	.09	.75	1.20	.50	1.85	T.	.01	.82	.10	.20	.14	T.		.57	1.02								T.	2.51	.01	.02	.13	.39	.01		10.32
Farmersburg	Wabash		.13	.23	.22	.03	T.			.05		.25	1.00			.45	4.32	.04							.10				48	1.19			8.49
Farmland	West Fork, White				.10		T.	.29			.56		.39	.11			.84	.20	.08												.03		2.60
Greenfield	East Fork, White		T.	.05			.75			.16		2.85	.05				1.76	.20						T.	.44			.10		.10			6.46
Greensburg	do		.22	T.	T.	.43				.91						T.	2.23	1.28							.57			.25					5.89
Huntingburg	Wabash			.46	1.83	.21	.36	.60		.07	.48	.22	.40			.12	1.20												1.34	2.76			10.05
Huntington	do						T.	.40		.05	.05		.15	.28		1.60		.03										.02		.20			2.78
Indianapolis	West Fork, White		T.	.49	T.	.38	.61			.06		1.26	1.60			.72	1.82	.18							.31			.08	T.	.01			7.52
Jeffersonville	Ohio		.59	.21	.77	1.07	1.66			1.22	.21	.15	.13	.36		T.	1.70	.14							T.	.06	.09	.59	.56	.62			10.13
Judyville	Wabash						T.						.88			1.01	.44	.12							T.				.09	.12			2.66
Kokomo	do										T.		.31			T.	.42	.52							.13					.60			1.98
Lafayette	do			T.	T.		.18	.02			.01		.21	.18		.02	1.96	.53	.12						.35	.01			.05	.21	.38		4.21
Logansport	do						.05	.35					.12	.05		1.13	.07		.64											.45	.70		3.56
Madison	Ohio		.23	.17	.21	.30	1.22	1.83			.38	.09	.30	.15			1.50	.56							.15		.15	.93	.10	.14			8.41
Marengo	do		.25	.05	.44	.60	1.40	T.	.04	.22	1.54	.77	.82	.94			.99	.60							.38	.09			1.26	1.36			11.75
Marion	Wabash			.85	.43						1.25		.13	.09		.02	.57		.18							T.					.68		4.20
Markle	do						T.			.40	T.		.80			.60		T.										.50		.20			2.50
Mauzy	East Fork, White		T.	.35	T.	.19	.80	T.		.06	T.	.58	.30			T.	2.47	.32						T.	.30			.07	T.	T.	T.		5.44
Monticello	Wabash																																
Moores Hill	Ohio			.62	.29	.35	.68	.41	.02	.07	.01		.22	.14		T.	1.43	.70							.03			.10			T.		5.07
Mount Vernon	do		T.		.16	.36	2.77	.66	.20	.46	.34		.30	.20			1.99	.30								.08	.28				.20		8.28
Paoli	East Fork, White		.21	.23	.10	.42	1.18	.02	.03		1.10	.06	.41	.23			1.15	.57							.04				1.00	1.92			8.67
Princeton	Wabash	.20			.80	.55	.15			.30		1.20	1.10				1.32								.44				1.30	.98			8.34
Richmond	Whitewater			T.	T.	.04	.65		.06	1.09	T.	.12	.31				1.75	.07							.04					T.			4.13
Rochester	Wabash										.05		.06	.07		.58		.21												.46			1.43
Rockville	do		T.	1.85	.02	T.	.25			T.		.03	2.05	.04		3.47	2.21	.33							.43				.24	.09			11.04
Rome	Ohio		.74	1.52	3.21	.64	.31	.23	.07	.01	.07		.12	.25			2.32	.14							.63		.05		4.25	1.35			15.91
Salamonia	Wabash			*	*	1.62	T.			.65	.14		.33				.62	T.						.04				.01		.12			3.53
Salem	Ohio		.18	.24	1.25	.68	.52	.02	T.	T.	.60	.02	.44	.05		.20	1.00	.14							.05				.25	1.54			7.18
Scottsburg	East Fork, White		.43	T.	.49	T.	2.39		.03	.36	.55	T.	.76	.42			1.15	.26							.50		.10	.54	.19	.40			8.57
Seymour	do		.12	.15	.27	.02	1.13	.10		.55	.44		.77				1.67	.29							.16			.44	.17	.28	.02		6.58
Shelbyville	do		1.60			1.05	.95			.60		.25	.30			.40	3.60	.60							.50			.50					10.35
Terre Haute	Wabash			.48	.20	.08				T.		T.	2.02			T.	2.28	.20							.18				.50	.36			6.30
Veedersburg	do			.05		*	.30			T.		T.	.44	.11		T.	1.18	.15							.13				.18	.20			2.74
Vevay	Ohio		.20	.20	.15		1.35			T.			.30	.40			.80	1.05							.25	.10		.80		.25			5.85
Vincennes	Wabash		.30	.20	.60	1.40	.10	.60			.35		.10	.03			1.00	.10								.30			.35	.30	.20		5.93
Washington	West Fork, White		.58	.19	1.58	.85	.13	.04			.53		.55	1.00			.85	.25								.10			1.20	2.22	.57		10.64
Whitestown	do			T.	T.	T.	1.18					.04	.54			10	1.85	.32							.43			.03	.02	.06	.04		4.61
Winona Lake	Wabash						.12			.07	.10		1.06	.22		12													.03			1.72
Worthington	West Fork, White		.05	.12	.19	.60	.38			.32	.18	.05	1.25			.33	5.42	.28							.48				.46	.68			10.88
Illinois.																																	
Albion	Wabash		.13	.04	1.75	.29	.29			.46		.25	.19			.02	1.23								.15		.98		.07	.15			6.00
Charleston	do		.72	.21	.03	.24				.02		.18	.96			1.52	.49	T.							16			.50	1.20	1.14			7.37
Danville	do			.79			.77						.45	.34	T.	.07	1.05	.18					.25		.03				.21	.16			4.30
Equality	Ohio		.03	.07	.67		3.13			.48	.57	.03	.40				2.90	.03							.03		.64			.28			9.26
Fairfield	Wabash			.18	1.04	.36	.59			.20	.04		.05				1.40	.44							.52		.22			.16			5.20
Flora	do		.43	T.	.20	.39	.16			.55	.08		.36			.08	2.26	.10							.20		T.			.22			5.63
Golconda	Ohio	.24	.14	.24	.35	.08	1.42			.25	.27	.04	.58				5.54	.04	.37						.14		.80			.25			10.75
Hoopeston	Wabash			1.33			.05					1.79	.45			.60	.06	.13							.03			.10	.12				4.66
McLeansboro‖	Ohio			.27		.26	.23				.54		.08				1.15	.26									.55				.23		3.57
Martinsville	Wabash		.68	.10	.30					.05		.70	1.10			2.20									.70				.83	.98			7.74
Mt. Carmel‖	do		.22	.46	.08	1.36	.22	.40		.01	.34		.42	.62			.96	.10								.28			.22	1.06	.08		6.83
New Burnside‖	Ohio		T.	.08	.66	.38	.44	.19		T.	.71	.04	.04	.80		.02	3.00		.23								.50	.20			.09		7.38
Olney	Wabash		*	.58	.10	1.23		T.	T.	.60		.04	.06				1.25	.02							.23				.04	.15			4.30
Palestine	do		.25	.41	.52	.07	.55	.15		.20	.07	.65	.41			.21	2.92								.43				1.75	2.52			11.11
Paris‖	do			.25	.15								.65	.63			2.10								.68	T.			.31	.53			5.30
Philo	do		T.	.54	T.		.24						.65			.12	1.51						.11		.03				.15	.40			3.75
Rantoul‖	do			.01				.18			.03		1.55	.04			.20		.10						T.				.26	.21			2.58
Robinson	do			1.15	1.30		.21			.18		.37	.45			.22	3.72										1.00	1.00					9.60
Sumner	do		T.	2.00	1.79	T.				2.81			.92			T.	1.11								.31				.25	.42			9.61
Tuscola‖	do			.57	.29		.02						.71	.32			2.32	.04	T.				.04		.27				.38	1.63			6.59
Urbana	do			.05									.78		T.	.10	.93	.01							.08				.27	.54			2.76

TABLE 3.—*Maximum and minimum temperatures at selected stations, July, 1910. District No. 3, Ohio Valley.*

Date.	Pennsylvania.				West Virginia.								Ohio.							
	Greenville.		Pittsburg.		Charleston.		Elkhorn.		Elkins.		Glenville.		Huntington.§§		Morgantown.		Parkersburg.		Wheeling.§§		Canton.§§		Cincinnati.		Columbus.		Dayton.§§	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	87	57	91	63	88	69	88	68	91	66	95	67	94	67	91	71	91	68	91	68	87	61	91	68	91	68	91	68
2	91	63	93	68	90	72	90	72	94	70	96	70	96	71	94	72	94	72	94	72	91	68	94	72	94	72	94	72
3	93	66	93	68	90	72	90	72	94	72	96	72	96	72	94	72	94	72	94	72	93	68	94	72	94	72	94	72
4	96	68	93	72	90	72	90	72	94	72	96	72	96	72	94	72	94	72	94	72	93	72	94	72	94	72	94	72
5	96	68	93	72	90	72	90	72	94	72	96	72	96	72	94	72	94	72	94	72	93	72	94	72	94	72	94	72
6	85	57	85	63	86	68	86	68	88	68	88	68	88	68	88	68	88	68	88	68	88	68	88	68	88	68	88	68
7	83	56	84	63	86	68	86	68	88	68	88	68	88	68	88	68	88	68	88	68	88	68	88	68	88	68	88	68
8	83	56	84	63	86	68	86	68	88	68	88	68	88	68	88	68	88	68	88	68	88	68	88	68	88	68	88	68
9	83	56	84	63	86	68	86	68	88	68	88	68	88	68	88	68	88	68	88	68	88	68	88	68	88	68	88	68
10	88	63	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72
11	87	66	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72
12	86	66	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72
13	86	66	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72
14	86	66	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72
15	86	66	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72
16	86	66	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72
17	86	66	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72
18	86	66	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72
19	86	66	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72
20	86	66	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72
21	86	66	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72
22	86	66	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72
23	86	66	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72
24	86	66	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72
25	86	66	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72
26	86	66	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72
27	86	66	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72
28	86	66	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72
29	86	66	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72
30	86	66	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72
31	86	66	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72	88	72
Mns	85.5	57.5	83.6	66.2	87.0	68.0	83.2	60.8	82.9	60.9	88.3	65.3	88.1	67.5	83.8	63.9	85.0	66.4	80.7	63.1	83.2	61.1	84.7	68.4	84.6	65.7	86.3	63.7

Date.	Ohio.																				Virginia.							
	Marion.		Waverly.§§		Big Stone Gap.		Wytheville.		Asheville, N. C.		Decatur, Ala.§§		Chattanooga.		Jonesboro.		Knoxville.		Nashville.		Palmetto.		Sparta.		Waynesboro.		Beattyville, Ky.§§	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	96	68	94	68	94	68	94	68	94	68	94	68	94	68	94	68	94	68	94	68	94	68	94	68	94	68	94	68
2	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68
3	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68
4	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68
5	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68
6	94	68	94	68	94	68	94	68	94	68	94	68	94	68	94	68	94	68	94	68	94	68	94	68	94	68	94	68
7	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68
8	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68
9	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68
10	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68
11	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68
12	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68
13	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68
14	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68
15	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68
16	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68
17	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68
18	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68
19	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68
20	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68
21	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68
22	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68
23	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68
24	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68
25	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68
26	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68
27	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68
28	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68
29	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68
30	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68
31	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68	96	68
Mns	88.2	61.9	87.2	65.4	81.9	65.3	80.8	62.0	80.9	63.0	80.6	69.0	85.0	69.5	86.5	63.9	84.7	68.4	85.6	70.3	86.1	68.3	87.3[b]	67.7[b]	86.3	67.5	86.3	63.5

TABLE 3.—*Maximum and minimum temperatures at selected stations, July, 1910. District No. 3*—Continued.

Date.	Kentucky.												Indiana.											
	Bowling Green. ‡‡		Earlington. ‡‡		Greensburg. ‡‡		Lexington.		Louisville.		Maysville. ‡‡		Williamsburg. ‡‡		Butlerville.		Evansville.		Indianapolis.		Kokomo.		Rockville.		Worthington.		Philo, Ill.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	95	72	93	71	94	68	94	71	92	72	94	68	94	68	94	68	94	72	94	72	94	72	94	72	94	72	94	72
2	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72
3	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72
4	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72
5	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72
6	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72
7	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72
8	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72
9	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72
10	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72
11	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72
12	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72
13	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72
14	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72
15	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72
16	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72
17	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72
18	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72
19	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72
20	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72
21	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72
22	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72
23	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72
24	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72
25	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72
26	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72
27	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72
28	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72
29	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72
30	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72
31	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72
Mns	89.3	66.4	89.9	68.0	86.0	64.6	82.4	67.1	86.4	69.3	88.4	64.7	87.5	65.6	85.9	64.9	85.7	69.8	83.2	67.4	86.3	62.3	82.5	65.8	83.9	66.5	85.3	63.9

Climatological Data for July, 1910.

DISTRICT No. 4, LAKE REGION.

Prof. HENRY J. COX District Editor.

GENERAL SUMMARY.

The month of July, 1910, in Climatological District No. 4 was characterized by temperatures generally above the normal, and by deficient rainfall. There were a few lealities, especially in the southeastern portion of Lower Michigan, northwestern Ohio, and western New York State, where the precipitation was in excess of the normal; but, as a rule, where such was the case a great portion of the amount received during the month fell in one or two heavy thunderstorms. The run-off from these storms was consequently so rapid as to prevent any considerable absorption by the ground. The drought conditions, which continued from the previous month, were more decided in the western portions of the district, where the little rainfall was not so evenly distributed in point of time, as was the case over the sections from Ohio eastward.

As a result of the deficiency in precipitation, rivers in practically all portions of the district were very low, and users of water power in Wisconsin, New York, and Vermont were seriously handicapped in the operation of their industries. The following newspaper reports will indicate the extent to which such industries have been interfered with:

The Oswegatchie River is now lower than it has been since the Cranberry Lake Reservoir was built in 1876. Not a water wheel on the dam at Gouverneur was able to start to-day, and the river in some places is a mere brook.—*Rome (N. Y.) Sentinel, July 7, 1910.*

All of the manufacturing plants on the Missisquoi River are being run by steam power, owing to the low level of the water, and boating with power launches is affected.—*Free Press (Burlington, Vt.), July 22, 1910.*

Light smoke, due to forest fires in the western Lake Superior region, was prevalent from Duluth eastward and southward over Wisconsin and Lower Michigan during the first three weeks of the month. On the 1st, 2d, 21st, 22d, and 23d off-shore winds carried dense smoke out over portions of Lake Superior, rendering navigation so difficult that a few vessels ran aground. The fires resulted in the destruction of much timber and of several camps and camp equipments before they were checked by the rains of the 23d, although the showery period of the 6-11th to the westward of the lake afforded much relief in that section.

The amount of sunshine was generally above the average throughout the district, and decidedly so in the southwestern portions. At Milwaukee and Toledo the number of clear days recorded—21 in each case—was greater than the number observed in any previous July. At Cleveland the percentage of possible sunshine, 82, was the highest percentage recorded at that station during 20 years. Along the western shore of Lake Michigan, where the mean temperature of the month was greatest, the relative humidity as observed at 7 p. m., was considerably below the average. As a result there were comparatively few days of high humidity, and the warm weather was less oppressive in that section than would otherwise have been the case.

TEMPERATURE.

The mean temperature of the month was from 3° to 4° above the normal over the southwestern shore of Lake Michigan, and generally between 1° and 2° above throughout the other sections of the district. The warm weather of the latter part of June continued through the first few days of July. The highest readings of the month from Ohio westward were recorded on the 1st at most stations, and temperatures of 100°, 101°, and 102° occurred in several instances. Over the eastern portions of the district the warmest days were the 8th and 9th, although at a few stations the extreme heat of the month occurred on other dates.

Cool periods were general in the district on the 3d-5th, 16-20th, and 30th-31st, and there were a few other dates on which the temperature was below the normal in localities. Light to heavy frost formed in several of the northern counties of Lower Michigan on the 5th, doing considerable damage to susceptible vegetation in the lowlands of Alpena County. Light to heavy frost also occurred in Gogebic and Ontonagon counties of the Upper Peninsula of Michigan on the 18th, at which time Thomaston, Mich., reported killing frost with a minimum temperature of 28°.

PRECIPITATION.

With the exception of the regions mentioned in the first paragraph of the general summary above, the precipitation of the district averaged between 1 and 2 inches below the normal for the month. In the Fox River Valley and Green Bay region of Wisconsin, however, the departures were considerably greater, reaching deficiencies of more than 3 inches, with an extreme of −4.96 inches at Appleton. In this section there was practically no rainfall during the first 23 days of the month, and the drought conditions here were accentuated to an extreme degree. The southern shore of Lake Erie, from Sandusky to Cleveland, also suffered a greater deficiency of precipitation than did most other sections of the district. The average departure in this region was about −2.50 inches, but on either side amounts fell in excess of the normal. In New York State there were several small areas of comparatively heavy rainfall to the south of Lake Ontario and in the Adirondack region; but elsewhere there was a deficiency of considerably more than 1 inch, although the fairly uniform distribution after the 6th was such as to admit of but small loss from the standpoint of the agriculturist.

LOCAL STORMS.

While no severe general storm swept the district during the course of the month, a number of thunderstorms which caused a greater or less amount of damage locally—especially over the eastern sections—accompanied the slow eastward movement of a trough of low barometric pressure from the 23d to the 27th. The following brief extracts from the reports of Weather Bureau officials refer to the severest of these thunderstorms:

Alpena, Mich.—During a thundersquall on the 24th (3:30 to 4:10 p. m.) 0.62 inch of rain fell in 14 minutes, and the wind reached a maximum velocity of 38 miles per hour from the northwest. A number of trees were blown down in this vicinity. Middle Island reported 60 miles of wind and a downpour of rain, while Thunder Bay Island had only a fresh wind and no rain.

Port Huron, Mich.—Two of the severest thunderstorms on record here occurred on the 24th. During the course of the first 0.86 inch of rain fell in 20 minutes, from 11:10 to 11:30 a. m. The evening storm, from 6:30 to 7:05 p. m., was the severer, 1.26 inch of rain falling in 30 minutes, and the wind attaining a maximum velocity of 50 miles per hour from the northwest. Two miles of telegraph, telephone, and trolley lines between this city and Detroit were blown down, and much damage was done by lightning.

Buffalo, N. Y.—The severest thunderstorm of the month passed over the station on the 24th, from 5 to 9 p. m., with a rainfall of 3.08 inches in 2 hours and 40 minutes. Streets and cellars were flooded, particularly in the lower portions, where all traffic was stopped. Street cars were unable to run for two hours on several lines, and in some of the viaducts the water was 5 feet deep. During an accompanying squall the wind attained a velocity of 44 miles at 8:05 p. m., overturning several small boats on the Niagara River, and two lives were lost by drowning.

Rochester, N. Y.—The electrical storm of the 24th fired the storehouse of the New York Central Railroad, containing great quantities of expensive electrical signal apparatus, all of which was completely destroyed. The damage is estimated at $40,000.

Bucyrus, Ohio.—The thunderstorm of the 27th was especially destructive at Bucyrus. The hailstones which accompanied it were as large as hickory nuts, and did much damage to windows, trees, and plants. Factories and greenhouses were damaged greatly, one greenhouse reporting 622 panes of glass broken.

MISCELLANEOUS.

Dense haze.—Conditions of haze from the 1st to the 10th of the month were pronounced in the vicinity of Canton, N. Y. The observer at this station reports that often during the period the sun was obscured for an hour after rising, and that in the evening it became deep red and faded away in the haze while still considerably above the horizon.

Large rain drops.—At 8:02 p. m., July 27, at Burlington, Vt., there fell from a passing cumulo-nimbus cloud scattered drops of rain of immense size. They were few in number and it was possible to measure the size of the marks. The smallest mark observed was 2 inches in diameter and the largest 3 inches; the average size being considerable over 2 inches in diameter. There were no unusual characteristics of the cloud, except that it appeared very close to the ground.

THE CRANBERRY CROP IN WISCONSIN.

The cranberry marshes in the Wisconsin section of District No. 4 have suffered severely from the prolonged heat and drought, which have combined to cause extensive blight. But few of the marshes promise even a fair crop, and in many cases there will be a total loss. These conditions are still further accentuated by the fact that the reservoirs, which supply water for reflowing the bogs when frosts are expected, are completely dry, so that in the event of early frost the existing crop, small as it is, may be completely wiped out.

TABLE 1.—*Climatological data for July, 1910. District No. 4, Lake Region.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Minnesota.																				
Duluth	St. Louis	1,133	39	67.2	+ 3.9	91	1	48	12	30	3.89	+ 0.22	2.05	0.0	11	11	15	5	ne.	U. S. Weather Bureau.
Floodwood	do	1,257	6	66.4	.....	93	15	32[a]	18	48[a]	3.67	.....	1.50	0.0	9	25	5	1	nw.	M. H. Schussler.
Mount Iron	do	1,510	16	66.4	+ 1.8	92	15	39	12	41	4.60	− 0.26	1.80	0.0	8	11	17	3	nw.	Oliver Iron Mining Co.
Stephens Mine	do	1,500	3	64.1	.....	92	1†	37	4	43	5.29	.....	2.82	0.0	10	10	17	4	w.	Do.
Two Harbors	Lake	614	16	67.6	+ 4.2	95	7	41	18	41	4.30	+ 0.03	1.10	0.0	10	4	17	10	ne.	George W. Watts.
Virginia	St. Louis	1,434	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Oliver Iron Mining Co.
Wisconsin.																				
Appleton	Outagamie	795	11	75.2	+ 5.1	99	1	50	11	40	0.88	− 4.96	0.72	0.0	5	28	2	1	s.	Wm. O. Thiede.
Ashland	Ashland	647	16	69.2	+ 1.2	93	1	39	18	41	3.95	− 0.12	1.96	0.0	11	16	11	4	ne.	Sam Wheeler.
Bayfield	Bayfield	635	2	70.5	.....	90	1†	47	19	33	1.81	.....	0.70	0.0	11	17	12	2	ne.	Ruben V. Ryder.
Cecil	Shawano	804	3	70.8	+ 1.7	99	2	40	18	45	2.75	− 0.71	1.50	0.0	3	23	8	0	sw.	Louis W. Schmidt.
Chilton	Calumet	860	16	72.4	+ 1.6	99	1	46	18†	37	1.77	− 1.49	0.90	0.0	5	19	12	0	sw.	Daniel V. Jones.
Crandon	Forest	1,060	15	68.0	+ 1.2	94	1	36	17	41	0.58	− 2.97	0.30	0.0	5	26	4	1	s.	Calvin T. H. Riggs.
Florence	Florence	1,293	19	67.0	+ 1.4	96	1	38	18	43	2.45	− 1.65	0.68	0.0	6	26	1	4	sw.	Fred S. Evans.
Fond du Lac	Fond du Lac	800	24	73.6	+ 3.9	98	1	43	19	42	1.82	− 1.71	1.15	0.0	5	28	2	1	sw.	Geo. W. Marshall.
Grand River Locks	Marquette	770	14	73.1	.....	98	1†	39	19	47	0.67	− 3.87	0.60	0.0	2	31	0	0	sw.	Jerry Parkinson.
Green Bay	Brown	617	24	72.4	+ 2.9	100	1	48	18	33	2.02	− 1.49	1.14	0.0	5	10	16	5	sw.	U. S. Weather Bureau.
Iron River	Bayfield	1,096	1	70.2	.....	95	15	42	4	38	4.25	.....	1.08	0.0	13	15	10	6	sw.	Harry C. Hall.
Kewaunee	Kewaunee	590	1	69.1	.....	93	2	50	24	37	1.81	.....	0.79	0.0	5	14	11	6	s.	Eugene V. Kimball.
Manitowoc	Manitowoc	616	59	70.9	+ 3.8	94	2	49	19	30	3.22	− 0.35	1.40	0.0	8	11	16	4	sw.	Johanna Lups.
Menasha	Winnebago	764	13	.....	.....	.....	.....	.....	.....	.....	1.11	− 2.87	0.94	0.0	3	29	1	1	sw.	George T. Allanson.
Menominee Falls	Waukesha	842	1	73.0	.....	99	2	48	19	37	2.00	.....	1.12	0.0	4	30	0	1	sw.	Arthur H. Christman.
Milwaukee	Milwaukee	681	40	73.5	+ 3.8	94	9	57	19	27	2.84	− 0.17	1.35	0.0	3	21	8	2	w.	U. S. Weather Bureau.
New London	Outagamie	762	14	73.8	+ 3.8	100	1	45	18	39	0.78	− 3.69	0.40	0.0	5	23	6	2	sw.	August H. Pape.
Oconto	Oconto	590	19	71.1	+ 2.2	99	1	45	18	36	1.72	− 1.60	1.30	0.0	5	21	10	0	s.	William K. Smith.
Oshkosh	Winnebago	744	21	73.8	+ 2.3	100	1	46	18	41	0.70	− 3.38	0.55	0.0	3	24	6	1	sw.	Evan Vincent.
Pine River	Waushara	900	15	72.8	+ 3.3	99	1	45	18	37	0.84	− 3.30	0.59	0.0	5	9	22	0	sw.	George H. Carpenter.
Plum Island	Door	588	2	69.2	.....	99	1†	50	31	32	1.09	.....	0.78	0.0	5	15	11	5	s.	John P. Whelan.
Plymouth‡	Sheboygan	843	...	73.0	.....	100	1	48	19	35	0.98	.....	0.48	0.0	6	23	7	1	s.	Paul O. Feldrappe.
Port Washington	Ozaukee	713	17	71.8	+ 4.1	95	9	50	19	30	1.02	− 2.31	0.42	0.0	4	23	6	2	se.	Richard C. Kann.
Racine	Racine	633	13	74.1	+ 3.0	98	24	52	19	32	0.45	− 3.05	0.23	0.0	4	20	9	2	ne.	Daniel Davis.
Ripon	Fond du Lac	935	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ripon College.
Sheboygan	Sheboygan	831	12	72.8	+ 3.4	97	2	50	19	29	1.13	− 2.46	0.72	0.0	4	21	9	1	se.	Louis C. Meyer.
Sturgeon Bay	Door	600	12	68.0	+ 2.5	97	2	40	19	37	2.14	.....	0.92	0.0	6	18	13	0	s.	Adam N. Dier.
Superior	Douglas	671	1	67.1	.....	92	1	44	18	32	3.41	.....	1.75	0.0	9	17	12	2	ne.	Edward B. Banks.
Waupaca	Waupaca	857	14	72.6	+ 1.8	102	1	44	19	49	0.97	− 2.74	0.83	0.0	4	12	9	10	sw.	James H. Flagg.
Illinois.																				
Chicago	Cook	824	40	76.0	+ 3.6	97	24	62	4	22	1.79	− 1.85	0.54	0.0	8	13	16	2	sw.	U. S. Weather Bureau.
Indiana.																				
Auburn	DeKalb	874	14	69.5	− 2.7	93	1	46	19	35	4.33	+ 0.70	1.27	0.0	9	16	4	11	w.	Mrs. Josie B. Kuhlman.
Berne	Adams	849	...	74.8	.....	98	1	48	19	37	1.87	.....	0.74	0.0	8	19	7	5	sw.	H. M. Reusser.
Elkhart‡	Elkhart	801	8	77.7	.....	99	1†	55	19	35	2.94	.....	1.08	0.0	6	18	9	4	sw.	Dr. Miles Medical Co.
Fort Wayne	Allen	775	14	75.6	+ 2.1	99	1	48	19	40	1.65	− 2.01	0.79	0.0	7	11	13	7	sw.	Orion E. Mohler.
Hammond	Lake	598	19	76.0	+ 2.9	100	24	51	11	42	2.29	− 0.48	0.80	0.0	5	14	13	4	.....	Carson W. Whitney.
Howe	Lagrange	886	5	74.6	.....	98	2	50	31	44	4.49	.....	2.45	0.0	6	24	4	3	w.	James E. Zook.
South Bend	St. Joseph	726	17	74.8	+ 1.4	101	1	50	19	40	1.53	− 1.94	0.48	0.0	7	18	7	6	sw.	Henry H. Swaim.
Whiting	Lake	606	....	76.4[j]	.....	96[j]	26	60	[j]11†	29	2.29	.....	0.85	0.0	6	11[j]	4[j]	7[j]	sw.	D. H. Boyd.
Michigan—Upper Peninsula.																				
Baraga	Baraga	623	8	67.5	.....	99	1	39	19	46	.....	.....	.....	0.0	...	18	2	11	sw.	D., S. S. & A. Ry.
Bergland	Ontonagon	1,300	....	64.8	.....	94	1	34	18	46	1.51	.....	0.55	0.0	6	13	18	0	nw.	Frank McMonigal.
Blaney	Schoolcraft	.....	3	65.7	.....	95	1	38	12†	50	1.26	.....	0.65	0.0	3	17	11	3	nw.	Dr. S. S. Hackwell.
Calumet	Houghton	1,246	22	66.2	+ 1.9	89	7	50	3†	25	1.86	− 0.71	0.90	0.0	5	14	12	5	w.	E. S. Grierson.
Chatham	Alger	875	9	63.2	.....	95	1	34	4	45	1.39	.....	0.89	0.0	7	14	15	2	n.	U. P. Experiment Station.
Deer Park	Luce	610	9	64.4	.....	90	6†	44	5†	41	1.80	.....	0.60	0.0	5	12	2	17	s.	Mrs. Sara E. McGaw.
Detour	Chippewa	585	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. F. E. Cameron.
Eagle Harbor	Keweenaw	622	11	64.1	+ 2.9	92	1	44	18	31	2.31	+ 0.05	1.70	0.0	6	11	5	15	w.	John Nolen.
Escanaba	Delta	612	37	66.6	+ 0.1	100	1	49	31	34	1.84	− 1.50	0.74	0.0	8	12	12	7	s.	U. S. Weather Bureau.
Ewen	Ontonagon	1,147	9	64.2	.....	95	1	31	18	49	1.21	.....	0.48	0.0	9	18	4	9	sw.	W. B. Hatfield.
Grand Marais	Alger	610	9	61.6	.....	85	6	46	4†	25	0.55	.....	0.20	0.0	4	16	5	10	nw.	Mrs. Lena Truedell.
Houghton	Houghton	668	9	67.1	+ 1.4	92	7	46	18	31	1.97	− 1.20	1.46	0.0	9	12	10	9	w.	U. S. Weather Bureau.
Humboldt	Marquette	1,536	13	63.4	+ 1.3	95	1	31	18	57	1.16	− 1.78	0.40	0.0	6	19	4	8	w.	D., S. S. & A. Ry.
Iron Mountain	Dickinson	1,111	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chapin Mining Co.
Iron River	Iron	1,504	13	59.6	.....	95	1	32	23	47	3.40	.....	1.30	0.0	8	23	4	4	w.	Victor D. Laing.
Ironwood	Gogebic	1,520	7	68.1	.....	92	1	41	18	35	2.74	.....	0.87	0.0	8	18	11	2	n.	Prof. J. V. Brennan.
Ishpeming	Marquette	1,536	10	67.4[e]	+ 3.8	95[e]	1	41[e]	5	47[e]	1.95	−2.73	0.80	0.0	8	8	21	2	nw.	Cliv'd Cliffs Iron Co.
Isle Royale	Keweenaw	610	3	58.4	.....	73	21	41	4	23	3.54	.....	0.99	0.0	8	12	7	12	sw.	John H. Malone.
Mackinac Island	Mackinac	831	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. I. S. P. Com.
Maple Ridge	Delta	.....	4	66.0	.....	94	1†	36	19	46	1.96	.....	0.62	0.0	6	21	5	5	s.	Herman Johnson.
Marquette	Marquette	734	39	66.2	+ 1.3	92	2	52	18	29	2.49	− 0.61	1.77	0.0	8	7	17	7	w.	U. S. Weather Bureau.
Menominee	Menominee	581	11	71.6	+ 3.6	102	1	48	18	32	1.12	− 2.63	0.94	0.0	3	26	5	0	sw.	C. & N. W. Ry.
Newberry	Luce	773	8	66.0	.....	95	2	34	19	44	1.79	.....	0.90	0.0	5	14	17	0	nw.	D., S. S. & A. Ry.
Powers	Menominee	868	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. & N. W. Ry.
St. Ignace	Mackinac	593	20	68.4	+ 4.1	86	1†	47	5	33	1.33	− 2.06	0.52	0.0	5	18	9	4	sw.	D., S. S. & A. Ry.
Sault Ste. Marie	Chippewa	614	22	64.9	+ 3.0	88	6	46	19	35	1.69	− 1.06	0.66	0.0	10	11	15	5	w.	U. S. Weather Bureau.
Thomaston	Gogebic	1,347	13	63.6	− 1.1	94	1	28	18	47	3.44	− 0.55	1.10	0.0	5	8	23	0	n.	D., S. S. & A. Ry.
Victoria	Ontonagon	1,263	....	68.3	.....	94	1	43	18	35	2.75	.....	1.22	0.0	8	21	6	4	w.	R. S. Schultz, jr.
Watersmeet	Gogebic	.....	1	65.8	.....	95	1	29	18	49	2.63	.....	1.20	0.0	8	4	16	11	nw.	B. N. Grant.
Wetmore	Alger	878	13	65.8	+ 3.9	94	1†	36	4	41	0.80	− 2.31	0.50	0.0	3	21	0	10	n.	D., S. S. & A. Ry.
Whitefish Point	Chippewa	610	20	60.2	+ 1.4	82	14	39	19	35	1.53	− 1.62	0.60	0.0	9	12	1	18	nw.	Robert Carlson.
Michigan—Lower Peninsula.																				
Adrian	Lenawee	770	32	75.2	+ 0.9	100	1	45	19	40	3.26	− 0.42	1.64	0.0	4	10	20	1	s.	B. F. Gibbs.
Allegan	Allegan	698	19	73.8[b]	+ 2.0	94[b]	26	48[b]	19	37[b]	1.41	− 1.48	0.63[b]	0.0	4[b]	3[b]	17[b]	3[b]	w.[b]	Pere Marquette R. R.
Alma	Gratiot	750	23	71.0	+ 1.1	98	1	41	19	41	1.60	− 1.53	0.74	0.0	5	18	11	2	sw.	P. M. Smith.
Alpena	Alpena	609	37	68.4	+ 2.6	99	2	43	5	31	1.70	− 1.36	0.73	0.0	9	17	9	5	nw.	U. S. Weather Bureau.
Ann Arbor	Washtenaw	930	30	72.7	+ 1.0	96	9	50	19	34	2.80	− 0.52	0.87	0.0	6	16[e]	8[e]	6[e]	n.	University of Michigan.
Arbela	Tuscola	728	14	71.6	+ 0.6	98	1†	41	19	42	3.65	+ 0.46	1.74	0.0	4	6	22	3	sw.	Wm. Atkin.
Battle Creek	Calhoun	822	26	73.3	0.0	97	1	46	19	38	1.03	− 2.53	0.55	0.0	4	18	12	1	sw.	Elmer E. Sager.
Bay City	Bay	593	14	73.4	+ 2.1	101	1	51	5†	34	0.55	− 2.71	0.20	0.0	4	28	3	0	nw.	Pere Marquette R. R.
Benzonia	Benzie	832	14	70.8	+ 2.9	98	1	49	19†	33	1.97	− 0.63	1.24	0.0	4	25	2	4	sw.	Martin S. Joiner.
Berlin	St. Clair	.....	21	71.0	+ 1.2	99	9	45	19	45	3.26	+ 0.53	1.95	0.0	6	9	20	2	sw.	R. O. Gould.
Big Rapids	Mecosta	906	14	70.2	+ 1.7	97	1	42	5†	44	1.91	− 1.48	0.48	0.0	7	25	5	1	sw.	Charles Gay.
Bloomingdale	Van Buren	.....	6	73.2	.....	100	1	47	31	42	1.99	.....	0.83	0.0	5	23	7	1	sw.	John M. Haven.
Cadillac	Wexford	1,293	1	71.3[d]	.....	97[d]	1	45[d]	18	43[d]	2.26	.....	0.95[d]	0.0	5[d]	19[d]	4[d]	3[d]	sw.	A. J. Teed.
Cassopolis	Cass	903	9	74.5	.....	99	1†	51	19	39	3.35	.....	2.30	0.0	4	28	0	3	sw.	Michigan Central R. R.
Charlevoix	Charlevoix	610	23	70.2	+ 2.6	95	6	50	5†	34	1.63	− 0.91	0.60	0.0	5	20	8	3	nw.	Pere Marquette R. R.

TABLE 1.—*Climatological data for July, 1910. District No. 4*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Michigan—Lower Peninsula—Cont'd.																				
Charlotte	Eaton		6	71.6		96	1	41	19	40	1.82		1.28	0.0	5	22	5	4	nw.	City of Charlotte.
Cheboygan	Cheboygan	611	20	69.4	+ 2.6	96[b]	2	45[b]	5†	38[b]	1.47	− 1.57	0.50[b]	0.0	5[b]	8[b]	20[b]	1[b]	sw.	E. A. Bouchard.
Clinton	Lenawee	830	20	73.9	+ 1.3	100	1	45	19	42	1.87	− 1.26	0.62	0.0	3	18	8	5	sw.	David Woodward.
Coldwater	Branch	984	13	73.0	+ 1.0	96	9	52	18†	36	3.54	− 1.19	1.65	0.0	6	25	6	0	sw.	Lake Shore & Mich. So. Ry.
Concord	Jackson		5	73.2		99	1	41	19	43	1.41		0.77	0.0	4	16	15	0	sw.	Dr. W. N. Armstrong.
Croton	Newago	685	2	72.2		98	1	46	31	41	3.14		1.16	0.0	5	10	21	0	sw.	G. R. Mus. Power Co.
Detroit	Wayne	730	39	73.9	+ 1.9	96	1	54	19	24	1.48	− 2.00	0.67	0.0	6	11	15	5	s.	U. S. Weather Bureau.
Durand	Shiawassee	799	3	73.9		101	1	43*	19†	46*	1.88		1.26	0.0	3	23	3	5	sw.	Grand Trunk Ry.
East Tawas	Iosco	590	13	69.4	+ 1.3	97	1	48	5	30	1.90	− 2.09	0.90	0.0	4	25	3	3	w.	Detroit & Mackinac Ry.
Eloise	Wayne	640	13	73.6	+ 1.0	97	9	46	20	38	3.64	+ 0.05	0.93	0.0	8	21	7	3	ne.	John Gilmore.
Flint	Genesee	730	21	72.2	+ 2.3	98*	2†	45	19	34*	4.12	+ 1.28	3.35	0.0	6	18	11	2	w.	Wm. L. Fisher.
Frankfort	Benzie	589	6	67.1		84	1†	50	18†	25	2.40		1.25	0.0	5	26	0	5	s.	Capt. Geo. Morency.
Ganges	Allegan	665	1	71.7		94	2	50	17	35	2.25		2.02	0.0	5	30	0	1	sw.	H. H. Hutchins.
Gaylord	Otsego	1,367	5	68.2		93	1	50	18†	36	3.69		1.23	0.0	5	20	0	11	sw.	Michigan Central R. R.
Gladwin	Gladwin	794	14	72.6	+ 3.5	102	2	44	5	46	1.20	− 2.25	1.10	0.0	2	29	1	1	sw.	Geo. R. Smith.
Grand Haven	Ottawa	628	29	70.6	+ 0.9	91	2	50	18	33	1.71	− 0.87	0.70	0.0	5	18	12	1	sw.	U. S. Weather Bureau.
Grand Rapids	Kent	707	21	73.7	+ 1.1	99	1	52	31	34	1.41	− 1.22	0.48	0.0	7	14	12	5	sw.	U. S. Weather Bureau.
Grape	Monroe	625	20																	Joseph W. Morris.
Grass Lake	Jackson	989	4	73.2		98	9	46	19	38	1.94		0.98	0.0	4	21	7	3	sw.	Menzo Conklin.
Grayling	Crawford	1,147	21																	Dr. Oscar Palmer.
Harbor Beach	Huron	635	22	67.2	− 0.7	94	2	44	6	46	2.45	+ 0.19	0.95	0.0	7	22	2	7	s.	Pere Marquette R. R.
Harrison	Clare	1,159	17	74.6	+ 6.1	100	1	43	15†	47	1.09	− 2.22	0.61	0.0	2	24	2	5	sw.	Do.
Harrisville	Alcona	616	26	68.2	+ 1.4	103	2	42	5	36	1.68	− 1.40	0.55	0.0	7	11	15	5	sw.	Dr. D. W. Mitchell.
Hart	Oceana	698	18	73.3	+ 3.9	99*	1	50	18†	38	1.51	− 0.87	0.50	0.0	5	23*	4*	3*	sw.	Pere Marquette R. R.
Hayes	Huron	620	20	71.3	+ 2.6	96[b]	1	45[b]	1	41[b]	1.65	− 1.09	0.48	0.0	6	18*	0*	10*	ne.	C. F. Leipprandt.
Highland	Oakland	830	18								1.28	− 1.98	0.34	0.0	4					A. D. De Garmo.
Hillsdale	Hillsdale	1,150	13	72.0*	+ 0.6	96*	1	44*	17	35*	5.19	+ 0.84	2.50	0.0	8	22	8	1	sw.	Prof. C. L. Herron.
Holland	Ottawa	610	4	72.4		94	1†	48	18†	40	2.09		1.70	0.0	4	18	13	0	sw.	City of Holland.
Howell	Livingston	924	18								3.05	+ 0.12	1.50	0.0	5	24	5	2	sw.	Frank Sharp.
Ivan	Kalkaska		21	69.2	+ 1.2	100	2	40	19	45	3.13	+ 0.29	1.13	0.0	5	21	9	1	nw.	O. L. Giddings.
Jackson	Jackson	927	13	73.2	− 0.3	96	9	43	19	40	2.31	− 1.25	1.13	0.0	9	10	20	1	sw.	City of Jackson.
Jeddo	St. Clair	667	21	71.6	+ 2.1	96	9	48	19	36	4.76	+ 1.83	2.57	0.0	10	13	10	8	sw.	William Bice.
Kalamazoo	Kalamazoo	955	34	73.8	+ 1.5	97	1	51	19	34	3.47	+ 0.04	1.17	0.0	4	24	5	2	w.	Kalamazoo Asylum.
Lansing (Agr'l. College)	Ingham	820	46	71.0	− 0.1	97	1	42	19	39	1.53	− 1.85	0.94	0.0	9	14	13	4	sw.	U. S. Weather Bureau.
Lansing (Capitol)	do	881	23	73.0	+ 1.3	97	1†	50	5†	37	1.14	− 2.26	1.00	0.0	5	17	10	4	sw.	State Board of Health.
Lapeer	Lapeer	827	11	72.9	+ 1.6	96	1	47	19	36	5.02	+ 2.20	3.50	0.0	6	26	4	1	sw.	Michigan Home.
Ludington	Mason	586	12	69.2	+ 1.4	93	1	46	19	32	1.99	− 0.51	1.61	0.0	4	23	3	0	sw.	Pere Marquette R. R.
Luther	Lake	1,028	0	69.2		100	1	38	31	45	2.41		0.93	0.0	6	20	10	1	w.	John W. Nicholson.
Mackinaw	Cheboygan	592	14	67.8	+ 0.8	93	1†	46	10	36	1.31	− 2.19	0.95	0.0	4	18	4	9	sw.	Grand Rapids & Ind. Ry.
Mancelona	Antrim	1,121	14	67.1	+ 0.4	99	2	29	13	51	2.28	− 0.42	1.10	0.0	4	25	2	4	sw.	Do.
Manistee	Manistee	600	13	71.2	+ 0.2	95	2	48	19	34	2.82	− 0.45	1.30	0.0	5	25	6	0	sw.	Pere Marquette R. R.
Midland	Midland	604	11	73.6	+ 2.9	102*	1	43*	19†	41*	0.80	− 2.44	0.40*	0.0	4*	23*	5*	2*	sw.	Do.
Montague	Muskegon	660	7																	Gerard A. Whitbeck.
Morenci	Lenawee	811	3	72.4		95	1	46	19	36	3.89		1.53	0.0	7	18	10	3	sw.	George J. Tripp.
Mount Clemens	Macomb	615	10			99	9				2.04	− 1.60	0.70	0.0	6	10	19	2	s.	Water Works.
Mount Pleasant	Isabella	826	11																	Pere Marquette R. R.
Muskegon	Muskegon	587	14	72.4	+ 2.2	90	2	52	5†	36	1.44	− 2.37	0.58	0.0	4	21	8	2	w.	Grand Rapids & Ind. Ry.
Old Mission	Grand Traverse	858	16	70.5	+ 1.6	96	2	52	5	35	2.32	+ 0.07	0.77	0.0	5	17	12	2	n.	E. O. Ladd.
Olivet	Eaton	934	20	72.0	+ 1.4	94	1	48	19	35	1.88	− 2.47	1.22	0.0	6	22	7	2	s.	Prof. G. A. Knapp.
Omer	Arenac	616	11	69.6	+ 2.6	99	1†	40	19	53	1.55	− 1.46	0.80	0.0	2	13	14	4	sw.	Detroit & Mackinac Ry.
Onaway	Presque Isle	826	7	72.0		98	2	45	14†	40	1.80		0.60	0.0	4	6	13	12	n.	Do.
Ovid	Clinton	760	20	71.0	+ 0.2	100*	1	40	19	45*	3.33	+ 0.07	1.83	0.0	8	24	4	3	sw.	Dr. B. L. Bates.
Owosso	Shiawassee	731	13	73.7	+ 1.2	101	9	41	19	43	3.67	− 0.69	1.91	0.0	6	6	25	0	sw.	Owosso Sugar Co.
Petoskey	Emmet	660	20																	Grand Rapids & Ind. Ry.
Plymouth	Wayne	725	13								1.53	− 2.32	0.75	0.0	3	23[b]	0	6[b]	sw.	Pere Marquette R. R.
Pontiac	Oakland	935	10	73.6	+ 4.0	91	1†	51	19	33	1.77	− 1.06	0.37	0.0	6	25	4	2	sw.	Fred W. Shaw.
Port Austin	Huron	618	14			96	1							0.0		26	0	5	sw.	Pere Marquette R. R.
Port Huron	St. Clair	639	35	71.2	+ 2.2	95	2	56	31	28	5.13	+ 2.39	4.11	0.0	6	15	9	7	sw.	U. S. Weather Bureau.
Reed City	Osceola	1,033	14			95	1†									22	9	0	nw.	Pere Marquette R. R.
Roscommon	Roscommon	1,141	6	66.6		100*	2	36	5†	48*	1.36			0.0		20	10	1	nw.	State Forestry Com.
Saginaw	Saginaw	601	8	74.2		100	1	50	5†	37	0.46		0.18	0.0	6	12	18	1	ne.	Postmaster.
Saginaw, W. S.	do	601	15	72.7	+ 0.9	101	1	46	19	41	1.01	− 2.83	0.44	0.0	6	16	15	0	sw.	Robert B. Hudson.
St. James	Charlevoix	681	4	68.1		92	1	49	30	30	1.74		0.50	0.0	5	17	3	11	sw.	Rev. N. Wilhelm.
St. Joseph	Berrien	593	23	74.4	+ 1.7	98	6	54	5	27	T.	− 2.99	T.	0.0	0	13	10	8	sw.	City of St. Joseph.
Sandusky	Sanilac	790	1	71.4		98	9	43	19	42	3.00		2.06	0.0	7	18	11	2	ne.	Pere Marquette R. R.
Saranac	Ionia	639	15	72.7	+ 1.0	101*	1	43*	19	46*	2.10	− 0.86	0.69*	0.0	5*	16*	8*	6*	sw.	John Wallington.
South Haven	Van Buren	585	14	70.2	+ 0.9	86	3†	52	8	26	1.58	− 2.27	0.78	0.0	3	27	3	1	sw.	Mrs. M. E. De Diemar.
Stanton	Montcalm	880	17	70.1	0.0	96	2†	40	10†	44				0.0		28	2	1	sw.	City of Stanton.
Thornville	Lapeer	975	33	71.6	− 0.4	94	1	47	19†	34	4.52	+ 1.45	2.60	0.0	6	13	16	2	se.	Dr. J. S. Caulkins.
Traverse City	Grand Traverse	588	13	74.4	+ 5.4	98	2	50	5	33	3.08	− 0.46	1.33	0.0	4	22	9	0	s.	Grand Rapids & Ind. Ry.
Vassar	Tuscola	641	9	72.4		100*	1	39*	19	45*	0.35		0.35*	0.0	1*	9*	19*	2*	sw.	Pere Marquette R. R.
Wasepi	St. Joseph	842	13	72.0	+ 0.9	96	1	50	20	35	3.22	− 1.22	1.72	0.0	8	25	2	4	sw.	Chas. A. Palmer.
Webberville	Ingham	884	8	72.2		97	1	41	19	42	2.04		0.85	0.0	6	7	24	0	sw.	I. R. Wadsworth.
West Branch	Ogemaw	973	7													12*	12*	3*	s.	Michigan Central R. R.
Woodlawn	Montmorency		8	64.9		94	1†	34	5	50	2.58		1.00	0.0	6	21	5	5	nw.	T. C. Mathews.
Ypsilanti	Washtenaw	736	25	72.2	+ 2.1	95	1†	52	5	34	3.26	− 0.28	1.66	0.0	8	4	26	1	sw.	Orin J. Bemiss.
Ohio.																				
Akron	Summit	1,081	23	73.5	+ 1.2	92	9†	50	20	34	2.48	− 1.62	0.71	0.0	7	16	11	4	sw.	Prof. C. R. Olin.
Benton Ridge	Hancock	800	17	75.1	+ 1.0	96	1	51	19†	38	2.48	− 1.35	0.90	0.0	5	16	10	5	sw.	J. W. Powell.
Bowling Green	Wood	670	30	74.5	+ 1.6	95	1†	49	19†	39	1.91	− 2.51	0.50	0.0	8	19	11	1	sw.	G. C. Housekeeper.
Bucyrus	Crawford	1,000	15	72.8	− 0.8	95	25	48	19	41	1.60	− 2.61	0.50	0.0	6	16	8	7	s.	James R. Hopley.
Cleveland (1)	Cuyahoga	762	39	72.4	− 0.1	90	24	56	20	23	0.94	− 2.61	0.43	0.0	9	17	12	2	n.	U. S. Weather Bureau.
Cleveland (2)‖	do	754	13	73.5	+ 0.7	93	9	53	20	30	1.49	− 2.54	0.41	0.0	7	21	5	5	sw.	Rev. F. L. Odenbach, S. J.
Conneaut	Ashtabula	675		71.6		93	9	48	19†	36	4.45		2.00	0.0	9	19	6	6	sw.	E. L. Ransom.
Defiance	Defiance	712	16	73.4	+ 0.3	95	1	47	20	40	2.16	− 1.91	0.99	0.0	8	19	6	6	sw.	John F. Heilshorn.
Findlay	Hancock	776	21	74.9	+ 0.7	98	1	48	20	41	2.62	− 1.22	0.72	0.0	7	22	2	2	sw.	Dr. E. A. Moser.
Fremont‖	Sandusky	628	9	75.0		95	9	51	14†	37	1.91		0.95	0.0	5	26	4	1	sw.	E. Stanley Thomas.
Hedges	Paulding	725	16	74.4	+ 1.1	96	9	47	19†	41	1.75	− 1.60	1.19	0.0	5	19	10	2	sw.	Charles Stutzman.
Hillhouse	Lake	997	18	71.0	+ 0.5	93	9	46	20	33	1.92	− 2.69	0.50	0.0	8	17	14	0	sw.	J. W. Doncaster.
Hiram	Portage	1,260	26	73.2	+ 2.1	92	25	52	19	28	1.53	− 2.29	0.49	0.0	8	14	16	1	sw.	Prof. G. H. Colton.
Hudson	Summit	1,153	49	72.6	+ 0.3	96	9	46	20	40	4.01	− 0.13	1.39	0.0	8	26	5	0	sw.	Dr. W. I. Chamberlain.
Lima	Allen	875	11	73.1	0.0	93	1	52	19†	30	2.21	− 1.15	0.97	0.0	6	25	5	1	w.	Miss Ollie De Long.
Medina	Medina	944	22	72.2	− 0.2	94	25	44	20	42	1.79	− 2.58	0.97	0.0	4	27	2	2	n.	F. W. Clark.
Montpelier	Williams	880	18	74.6	+ 2.2	98	1	48	19	37	5.47	+ 1.50	2.40	0.0	7	23	6	2	w.	G. L. Laser.
Napoleon	Henry	680	24	74.1	+ 1.1	95	9	50	19†	36	2.61	− 0.79	0.99	0.0	7	20	6	5	e.	A. C. Senter.
New Bremen	Auglaize	1,038	17	73.6	− 0.6	94	1†	50	19	31	4.37	+ 1.16	1.28	0.0	7	17	12	2	ne.	Miss Lillian Grothaus.

TABLE 1.—*Climatological data for July, 1910. District No. 4*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.					Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Ohio—Cont'd.																				
North Royalton	Cuyahoga	1,000	18	73.6	+ 1.2	95	25†	48	20	37	1.81	− 2.64	1.07	0.0	5	18	11	2	w.	W. S. Edgerton.
Norwalk	Huron	719	24	73.6	+ 0.7	97	9	47	19†	41	2.41	− 2.15	1.36	0.0	5	14	9	8	s.	Dr. Albert Sheldon.
Oberlin	Lorain	855	35	73.2	+ 0.8	95	9	48	19†	37	1.92	− 1.85	1.22	0.0	5	9	17	5	nw.	Prof. F. F. Jewett.
Ottawa	Putnam	720	18	74.0	+ 0.2	96	1	50	20	35	3.39	− 0.37	2.04	0.0	7	5	17	9	w.	Prof. J. T. Maidlow.
Sandusky	Erie	629	33	74.8	+ 1.2	94	9	58	20	23	1.76	− 2.03	0.53	0.0	10	18	8	5	sw.	U. S. Weather Bureau.
Tiffin	Seneca	775	28	74.8	+ 1.2	94	1	54	21	31	3.72	− 0.23	1.85	0.0	7	19	11	1	s.	Prof. T. H. Sonnedecker.
Toledo (1)	Lucas	769	39	74.8	+ 1.1	95	1	55	19	25	3.29	+ 0.05	1.06	0.0	8	21	8	2	sw.	U. S. Weather Bureau.
Toledo (2)§	do	606	6	74.4	.....	94	9	53	19	27	3.20	.....	1.00	0.0	10	20	9	2	sw.	J. A. Krance, S. J.
Upper Sandusky	Wyandot	854	27	74.2	+ 0.4	95	1	44	19	42	1.80	− 1.78	0.89	0.0	4	14	12	5	sw.	Prof. R. J. Kiefer.
Vickery	Sandusky	588	17	74.8	+ 1.6	97	9	48	14	40	1.83	− 2.33	0.63	0.0	10	13	13	5	sw.	John W. Barr.
Wauseon	Fulton	780	38	74.0	+ 1.2	97	1†	45	19	38	4.08	+ 0.14	1.89	0.0	9	16	9	6	n.	Thomas Mikesell
Wellington	Lorain	856	16	73.9	+ 0.4	94	9	47	20	40	1.62	− 2.35	0.65	0.0	6	19	6	6	sw.	W. D. Warren.
Willoughby	Lake	649	16	.....	.....	.....	.....	.....	.....	.....	1.14	− 2.44	0.48	0.0	3	9	21	1	w.	C. J. Richardson.
Pennsylvania.																				
Erie	Erie	713	37	71.8	+ 0.7	91	24	56	19	26	3.82	+ 0.67	2.18	0.0	10	13	16	2	w.	U. S. Weather Bureau.
New York.																				
Adams Center	Jefferson	540	19	70.7	+ 0.8	93	9†	50	18	35	2.19	− 2.29	0.51	0.0	9	17	12	2	sw.	A. E. Cooley
Angelica	Allegany	1,340	27	66.2	− 1.7	91	9	39	5	44	3.28	− 0.92	1.22	0.0	9	7	17	7	w.	Chales P. Arnold.
Appleton	Niagara	270	19	71.4	+ 1.8	96	9	49	5	33	3.32	− 0.69	0.97	0.0	10	20	9	2	sw.	H. A. Van Wagoner.
Auburn	Cayuga	715	41	70.6	+ 0.1	95	9	50	14†	34	3.39	− 0.40	0.85	0.0	9	25	5	1	n.	A. H. Underwood.
Avon	Livingston	585	15	70.6	− 1.0	93	9	50	5†	34	4.44	+ 0.67	1.67	0.0	7	14	15	2	.....	W. G. Markham.
Blue Mountain Lake	Hamilton	1,750	10	.....	.....	.....	.....	.....	.....	.....	2.30	− 2.29	0.77	0.0	6	26	4	1	w.	B. F. Merwin.
Brockport	Monroe	537	14	72.0	+ 0.8	95	9	50	17	36	2.92	− 1.40	0.96	0.0	10	19	9	3	sw.	W. H. Lennon.
Buffalo	Erie	767	59	70.1	+ 0.1	88	6	56	17	27	5.33	+ 0.93	3.10	0.0	8	13	8	10	sw.	U. S. Weather Bureau.
Canton	St. Lawrence	448	16	69.4	− 0.9	91	9	48	19	35	1.94	− 0.29	0.80	0.0	14	14	14	3	sw.	Do.
Cape Vincent	Jefferson	246	5	69.2	.....	90	9	51	4	27	2.18	.....	1.08	0.0	9	13	15	3	s.	Verne M. Rice.
Carvers Falls	Washington	243	12	69.3	+ 0.5	94	10	47	18	37	1.50	− 2.05	0.70	0.0	4	25	3	3	s.	Washburn Fancher.
Chazy	Clinton	151	10	70.4	+ 1.6	88	10	49	20	32	1.95	− 2.11	1.00	0.0	4	20	5	6	n.	W. R. North.
Dannemora	Clinton	1,490	5	69.2	.....	90	10	50	18	29	3.04	.....	1.31	0.0	15	10	10	11	s.	W. N. Thayer.
Elba	Genesee	500	11	69.5	− 0.1	92	9	47	5	37	3.20	− 1.64	1.05	0.0	7	22	7	2	sw.	Jos. S. Wilford.
Fayetteville	Onondaga	530	9	73.0	.....	96	9	51	5	37	2.67	− 1.30	0.67	0.0	9	13	17	1	nw.	Dana H. Wells.
Gabriels	Franklin	1,729	8	65.4	.....	91	6†	39	17	46	4.29	.....	0.80	0.0	16	13	8	10	sw.	Sanatorium.
Harkness	Clinton	622	8	69.4	.....	91	10	47	17	29	3.25	.....	0.85	0.0	12	25	6	0	w.	J. W. Harkness.
Hemlock Lake	Livingston	900	12	70.8	− 0.4	90	9	48	18	27	1.72	− 2.47	0.76	0.0	3	14	9	8	w.	D. H. Westbury.
Hunt	do	1,321	11	71.5	+ 1.4	95	9	48	19	35	2.96	− 2.60	0.80	0.0	7	11	18	2	sw.	W. S. Barrager.
Ithaca	Tompkins	928	32	71.4	+ 0.8	94	9	49	5	37	1.62	− 2.13	0.73	0.0	7	15	10	6	nw.	U. S. Weather Bureau.
Keene Valley	Essex	1,000	12	68.2	+ 1.4	96	10	43	17†	46	1.64	− 2.27	0.75	0.0	12	11	15	5	s.	E. R. Wells.
King Ferry	Cayuga	.....	10	.....	.....	.....	.....	.....	.....	.....	1.77	− 2.32	0.46	0.0	9	14	15	2	nw.	Lucius A. Goodyear.
Lake George	Warren	350	13	72.6	+ 2.8	95	10	50	18	35	1.69	− 2.62	0.52	0.0	7	14	15	2	s.	Charles Forsell.
Lake Placid Club	Essex	1,864	2	62.0	.....	88	12	39	18	46	2.87	.....	0.65	0.0	14	18	13	0	w.	Henry van Hoevenberg.
Le Roy	Genesee	920	20	70.4	+ 1.7	93	9	50	5	35	3.81	+ 0.65	1.31	0.0	10	14	2	15	w.	F. W. Ball.
Lockport	Niagara	650	23	71.0	+ 0.4	91	9	51	5	31	3.39	− 0.35	0.93	0.0	11	20	4	7	sw.	J. E. Wakeman.
Lowville	Lewis	900	43	67.8	+ 0.3	92	9†	42	6	47	2.89	− 0.82	0.80	0.0	8	24	6	1	w.	Charles J. Rice.
Lyndonville	Orleans	.....	14	.....	.....	.....	.....	.....	.....	.....	3.23	− 0.30	1.20	0.0	6	23	7	1	sw.	Milton St. John.
Moira	Franklin	200	10	70.2	+ 1.2	92	9	48	17	31	3.42	− 1.41	1.22	0.0	13	11	16	4	w.	C. E. McBride.
Nehasane	Hamilton	1,750	2	64.4	.....	89	9†	38	5†	47	3.24	.....	0.64	0.0	14	18	6	7	w.	A. C. Heyburn.
North Lake	Herkimer	1,822	9	66.1	+ 0.7	88	9†	46	17†	38	2.49	− 2.45	0.65	0.0	7	19	5	7	nw.	H. A. Paull.
Ogdensburg	St. Lawrence	175	26	70.9	+ 1.6	90	9	50	22	30	2.41	− 0.79	1.50	0.0	10	15	14	2	sw.	State Hospital.
Old Forge	Herkimer	1,733	2	66.6	.....	95	24	42	5†	46	5.16	.....	2.07	0.0	11	17	5	9	w.	Stuart W. Nelson.
Oswego	Oswego	335	40	70.1	+ 0.5	93	9	55	5	29	3.41	+ 0.18	0.86	0.0	10	19	6	6	s.	U. S. Weather Bureau.
Otto	Cattaraugus	1,410	6	70.7	.....	88	9	51	17†	31	4.62	.....	1.23	0.0	9	17	6	8	.....	William Winke.
Palermo	Oswego	460	51	.....	.....	.....	.....	.....	.....	.....	3.66	+ 0.30	0.81	0.0	11	18	10	3	sw.	E. B. Bartlett.
Perry City	Schuyler	1,038	30	69.6	+ 0.6	96	10	44	5	42	2.28	− 1.95	0.73	0.0	10	16	12	3	nw.	W. H. Jeffers.
Philadelphia	Jefferson	485	4	69.6	.....	91	9†	46	18	36	2.15	.....	0.80	0.0	6	7	23	1	w.	E. D. Babcock.
Plattsburg	Clinton	170	60	72.2	+ 2.7	92	16	52	1†	35	3.00	− 0.55	0.90	0.0	10	.....	.....	.....	se.	T. P. Davison.
Potsdam	St. Lawrence	300	34	66.5	− 1.8	91	7†	40	17	46	1.00	− 3.34	0.22	0.0	12	18	0	13	e.	A. E. Sutuerland.
Raquette Lake	Hamilton	.....	2	64.7	.....	86	10	46	18	37	3.20	.....	0.62	0.0	14	14	9	8	sw.	R. J. Dunning.
Rochester	Monroe	523	81	72.0	+ 1.6	94	9	54	5	33	3.43	+ 0.34	0.95	0.0	10	17	9	5	w.	U. S. Weather Bureau.
Romulus	Seneca	719	18	71.8	+ 0.2	95[b]	9	51[b]	18	33[b]	1.15	− 2.39	0.43	0.0	6	.....	.....	.....	nw.	John H. Coryell.
Shortsville	Ontario	740	11	70.7	+ 0.5	93	9	49	18	34	4.61	+ 0.41	1.72	0.0	9	18	10	3	w.	C. H. Latting.
Skaneateles	Onondaga	.....	15	.....	.....	.....	.....	.....	.....	.....	3.02	− 1.05	0.60	0.0	10	.....	.....	.....	.....	Edward Conron.
Syracuse	do	597	8	71.3	+ 0.5	92	9	54	17	28	2.96	− 0.72	0.83	0.0	11	8	14	9	s.	U. S. Weather Bureau.
Ticonderoga	Essex	344	12	.....	.....	96	24	.....	.....	.....	0.96	− 2.70	0.73	0.0	7	20	8	3	s.	Eva M. De Lano.
Trudeau	do	1,620	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Daniel Smith.
Tupper Lake	Franklin	1,522	10	66.0	+ 1.3	86[a]	6†	46[a]	5†	32[a]	3.44	− 1.51	0.76	0.0	15	23	3	5	w.	Aaron W. Maddox.
Volusia	Chatauqua	1,167	11	71.3	+ 3.0	94	9	47	19	35	2.26	− 1.71	0.96	0.0	6	13	18	0	s.	Benjamin Breads.
Wanakena	St. Lawrence	.....	0	67.4	.....	94	10	42	17	46	3.03	.....	0.56	0.0	13	7	6	18	sw.	J. Otto Hamele.
Watertown	Jefferson	737	18	69.6	− 0.1	91	9	49	18	28	2.74	− 0.91	1.08	0.0	9	20	10	1	sw.	H. P. Dunlap.
Wedgewood	Schuyler	1,430	21	71.6	+ 1.7	95	9	51	19	33	1.99	− 1.96	0.88	0.0	9	23	5	3	sw.	Orlando F. Corwin.
Westfield	Chatauqua	837	14	69.6	− 1.4	90	9†	50	18†	29	3.52	− 0.73	1.21	0.0	7	.....	.....	.....	.....	John R. Rogers.
Youngstown	Niagara	.....	8	.....	.....	.....	.....	.....	.....	.....	4.35	.....	1.48	0.0	9	8	19	4	sw.	B. V. Brookins.
Vermont.																				
Burlington	Chittendon	404	3	69.2	+ 1.0	92	10	48	18	31	3.06	− 0.72	1.01	.....	13	4	23	4	s.	U. S. Weather Bureau.
Cornwall	Addison	507	17	71.0	+ 0.1	95	10	50	18	31	2.05	− 1.48	0.52	.....	11	16	12	3	s.	C. H. Lane.
Enosburg Falls	Franklin	601	19	67.9	+ 0.3	94	10	44	17	38	2.45	− 2.95	0.64	.....	14	12	17	2	n.	L. Howe Pomeroy.
Northfield	Washington	876	24	66.4	− 0.2	91	10	42	18	40	1.96	− 1.74	0.58	.....	17	5	22	4	s.	U. S. Weather Bureau.
Rutland	Rutland	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. L. Hindley.
Wells	do	750	19	69.9	+ 0.9	90	10	50	17†	30	2.04	− 2.38	0.43	.....	10	10	18	3	s.	E. R. Pember.

[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
* Precipitation included in that of the next measurement.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
‡ Separate dates of falls not recorded.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
‖ Estimated by observer.
‡ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for July, 1910. District No. 4, Lake Region.*

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Minnesota.																																	
Duluth	Lake						.57	.20	.04	.14	.06	.60	T.	T.			.02			T.	T.			2.02	.03	T.			.01			.19	3.89
Floodwood	do						1.50		.03	.30	.03	.50											.43	.34		.39					.15	3.67
Mount Iron	do						.92	T.	.05	.30	.22	.37								.09				1.80	.85							4.60
Stephens Mine	do						.57	T.	.05	.26	.61	.48	.05							.33				2.82	.11	T.					.01	5.29
Two Harbors	do						.30	.10	.50	.10	.50	.51	.14											1.10	.55		.50				T.	4.30
Virginia	do																															
Wisconsin.																																
Appleton	Fox									.02			.01								T.	.01	.12	T.	.72		T.					0.88
Ashland	Lake						.18	.11	1.96	.27	.09	.26	.05		T.							.10			.84		.03	.06		T.			3.95
Bayfield	do						.20	.10	.15	.05	T.	*	.21							.05				*	.70	*	.20		.05			.10	1.81
Cecil	Fox									T.												.45		1.50		.80			T.			2.75
Chilton	do									T.	.03		.90					T.			T.	.09	.17		.58							1.77
Crandon	do									.13		.02												.02	.30		.11				T.	0.58
Florence	Menominee									.15			.13									.25		.68	.44		.80					2.45
Fond du Lac	Fox									T.	.07		1.15									T.	.15	.15	.30							1.82
Grand River Locks	do										.07		T.		T.			T.							.60							0.67
Green Bay	Lake									T.	.01	T.	T.				T.				T.	.29			1.14		.40				.18	2.02
Iron River	do						.35	.24	1.08	.05	.05	.26	.05		T.					.03	.03			.60	.90			.36	T.		.23	4.25
Kewaunee	do						T.				.01		.56								T.	.35			.79		.10					1.81
Manitowoc	do						.65				.14		1.41									.30	.06		.62		.04					3.22
Menasha	Fox									.03			T.									.14			.94							1.11
Menominee Falls	Lake						.04			T.	.02		1.12										T.	T.	.82							2.00
Milwaukee	do						T.			1.35			1.32									T.		T.	.17							2.84
New London	Fox									.08			.05								.05	.20			.40							0.78
Oconto	Lake									.02			T.								T.	.06			1.30		.24				.10	1.72
Oshkosh	Fox			.10							.05		T.												.55							0.70
Pine River	do										.10		.02				.05					T.		.08	.59							0.84
Plum Island	Lake						.07				.04											.05			.78		.15					1.09
Plymouth	do						.10			.01			.48										.11	.02	.26							0.98
Port Washington	do						.12				.22		.42												.26							1.02
Racine	do						T.				.23		.05										.03	.14			T.					0.45
Ripon	Fox																															
Sheboygan	Lake						.02				T.		.72										T.	T.	.35		.04					1.13
Sturgeon Bay	do						.23	T.			.03		.11								T.	.74			.92		.11					2.14
Superior‖	do						.36		.22	T.	.15	.04	.50	.03	T.			.02						1.75		T.					.34	3.41
Waupaca	Fox									.03			.08				.03			T.		T.		.83								0.97
Illinois.																																
Chicago	Lake Michigan						.02			.03		.20	.34		.04	.34	T.	.39					.43	T.	T.		T.		T.			1.79
Indiana.																																
Auburn‖	Maumee				.78			.06			T.		.30	.15			.54	.23						.10		1.27		.90					4.33
Berne	do						.21			.32	.06		.33			.06	.05							.74		.10						1.87
Elkhart‖	St. Joseph						T.	T.			1.08		.23	.53			.76	T.						.33	T.	.01		T.	T.				2.94
Fort Wayne	Maumee			.06			.07			T.	.02		.43	.23		T.	.05	T.							T.			.79		T.			1.65
Hammond	Lake Michigan						.80						.47			.32		.48						2.22									2.29
Howe‖	St. Joseph						.12				2.45		.64	.33										.85		.10							4.49
South Bend‖	do										.43		.08	.48			.06							.38		.09		.01					1.53
Whiting	Lake Michigan						.18					.14	.38		.10	.64							.85										2.29
Michigan—Upper Peninsula.																																
Baraga	Lake																															
Bergland	Ontonagon			T.				.04	.10	T.	T.	T.		T.						T.		.07		T.	.10	.35			.65			1.51
Blaney	Manistique																							.65	.50						.11	1.26
Calumet	Lake						T.		.19	T.		T.	.15							T.				.37	.90		.25				T.	1.86
Chatham	do						T.	T.	T.	.02	T.		.11				.02			T.				.23	.89		.05		T.		.07	1.39
Deer Park	do						.60	T.			T.			.10			T.							.20	.60						.30	1.80
Detour	St. Marys																															
Eagle Harbor	Lake						T.		T.	T.			.20												1.70	.20	.15		T.		.06	2.31
Escanaba	do						.02	T.	T.	.02	T.		.08				T.					.28		.09	.60		.74				.01	1.84
Ewen	Ontonagon							.03	.40	.03	.02	T.	.10								T.	.03	T.	.10			.48		.02			1.21
Grand Marais	Lake							T.		20														.15	.10				T.		.10	0.55
Houghton	do						T.	.02	.15	.03		.08	.01								T.		T.		1.27	.19		.12				.10	1.97
Humboldt	Escanaba								T.	.01	.15		.18												.05	.37		.40				T.	1.16
Iron Mountain	Menominee																															
Iron River	do							T.		.20	.20		.40				T.					.40		.20	1.30		.60				.10	3.40
Ironwood	Lake							.20	.60	.03	.56	T.	.12									.03			.87		.33				T.	2.74
Ishpeming	Escanaba			T.					.10	.15	.10		.20											.30	.80		.25				.05	1.95
Isle Royale	Lake						.29			.50	T.	.18	.20											.98	.99		.20			.20	T.	3.54
Mackinac Island	do																															
Maple Ridge	do									.02	.18						.09							.48	.57		.62					1.96
Marquette	do							T.	.14	.07	.13	T.	.22			T.	T.			T.				1.26	.51		.08				.08	2.49
Menominee	Menominee						T.			.12			T.											.94			.06				T.	1.12
Newberry	Tequamenon								.09	.12															.90	.10					.58	1.79
Powers	Lake																															
St. Ignace	do										.21		.50				.05								.52					.05		1.33
Sault Ste. Marie	St. Marys						.01	T.	.16	.13	.19		.22				.07							.43	.23					.08	.17	1.69
Thomaston	Lake							T.	.84		.55	T.										.15		T.	1.10		.80		T.			3.44
Victoria	Ontonagon		T.					.02	.74	.04	T.	T.	.07				T.					.01		.07	1.22		.58				T.	2.75
Watersmeet	do		T.					.05		.30	.16		.20									.21		.22	1.20		.29					2.63
Wetmore	Lake			.10																					.50						.20	0.80
Whitefish Point	do						.58	.03	.01	.08			.01				.02							.12	.08	.60				T.			1.53
Michigan—Lower Peninsula.																																
Adrian	Raisin			T.			.08	T.					1.64										.69	T.				.85					3.26
Allegan	Kalamazoo									.35			.63										.30					.13					1.41
Alma	Saginaw						T.			.15			.30				T.					T.	.34	T.	.74		T.	.07					1.60
Alpena	Lake						.13		.02	.10	.05		.24			T.	.31					.11			.73					T.		.01	1.70
Ann Arbor	Huron						.07			.02			.87				.65							.65				.54					2.80
Arbela	Saginaw									.76			.34												1.74			.25		.56			3.65
Battle Creek	Kalamazoo						.55				T.		.05										.21					.22					1.03
Bay City	Saginaw												.10									.10		.20	.15								0.55
Benzonia	Betsie									.27			.35								T.			1.24			.11						1.97
Berlin	Clinton						T.	.02		T.			1.01				.01						.13	T.	1.95				.14				3.26
Big Rapids	Muskegon										.42		.47									T.	.37		.48		.05	.08		.04			1.91
Bloomingdale	Lake									.53	.30		.21										.83		T.			.12					1.99
Cadillac	Manistee										.53					.95						.03			.63		.12						2.26
Cassopolis	St. Joseph									2.30			.45											.40	.20									3.35
Charlevoix	Lake										.31		.60								.16				.50		.06						1.63
Charlotte	Kalamazoo						.01				.18		.10								T.		.25		T.			1.28					1.82
Cheboygan	Cheboygan									.20	.20			.50			.15						.42										1.47
Clinton	Raisin						T.			T.			.62	.70									T.					.55					1.87
Coldwater	St. Joseph						T.			.24	.33		.85	.17									.30					1.65					3.54
Concord	Kalamazoo						T.			.18	T.		.25										.21		T.			.77					1.41
Croton	Muskegon										.49		.36										1.16		.84		T.	.20					3.14
Detroit	Detroit						T.	T.			T.		.67			T.	.16						.04	.12	.34		.15			T.			1.48

TABLE 2.—*Daily precipitation for July, 1910. District No. 4*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Michigan—Lower Peninsula—Cont'd.																															
Durand	Saginaw										T.		T.					T.					.21	T.	1.26	T.		.41		T.			1.88
East Tawas	Lake										.10		.90									.40			.50								1.90
Eloise	Rouge						.01			T.			.93	.15			.90						T.	.79	T.	.01		.20		.65			3.64
Flint	Saginaw												.15										.07	.10	3.35			.40		.05			4.12
Frankfort	Betsie										.35		.50									.20			1.25		.10						2.40
Ganges	Lake									T.	2.02		.13										.07	.01	.02								2.25
Gaylord	Cheboygan									.07	T.		1.17				T.					1.23				.09					1.13	3.69
Gladwin	Saginaw										T.		.10									T.			1.10								1.20
Grand Haven	Grand									.49			.49								T.	.03		.02	.68		T.						1.71
Grand Rapids	do									.27	.09		.45								T.	.03	.04		.48		.05						1.41
Grape	Raisin						T.			T.	.02		.37										.01	T.				.78					
Grass Lake	Grand									.09	.12		.75										T.		T.	T.		.98					1.94
Grayling	Au Sable																																
Harbor Beach	Lake										.95		.10				.60						.50		.05	.15				.10			2.45
Harrison	Saginaw												.61												.48								1.09
Harrisville	Lake							T.		T.	.08		.55				.14					.51	T.	.02	.08					.30			1.68
Hart	Pentwater									.35		.48	.08										.50		.10								1.51
Hayes	Pigeon							.34			.23												.48				.23					.21	1.65
Highland	Huron									.34														.44	.42					.08			1.28
Hillsdale	Saint Joseph						.33			.89						.07	.96						.42	.02	T.			2.50					5.19
Holland	Lake										1.70		.35										T.	.02	.02			T.					2.09
Howell	Saginaw						T.			1.50													.25		.22		.43		.65				3.05
Ivan	Manistee										1.13		.70									.43			.80		.07			T.			3.13
Jackson	Grand						.01			.21	.03		.49				.05	T.					.08	.28	.03			1.13		T.			2.31
Jeddo	St. Clair						.04	.08		.90	.04		.18				T.					.11	.05	.17	2.57			.62					4.76
Kalamazoo	Kalamazoo						1.17				.90		.85										.55										3.47
Lansing (Agri. Col.)	Grand						.35			.02			.13				.02				T.		T.	.01	.01		.68	.26		.05			1.53
Lansing	do						.01			T.	.06		.04				T.							T.	.03			1.00					1.14
Lapeer	Saginaw											.52	.23										.20		3.50	.20				.37			5.02
Ludington	Pere Marquette												.43										.46			.49	.61						1.99
Luther	Manistee										.41		.93									.15	.05		.81		.06						2.41
Mackinaw	Lake										.95	T.		.10										.12	T.						.14		1.31
Mancelona	do										1.00		1.10									.03		T.	.15		T.			T.			2.28
Manistee	Manistee										.42		.71										.33		1.30		T.	.06					2.82
Midland	Saginaw								T.		.10		.20									.10			T.		T.	T.		.40			0.80
Montague	White																																
Morenci	Maumee						.29	.49		.01			1.07										.46		.04			1.53					3.89
Mount Clemens	Clinton						T.	T.			T.		.50	T.			T.						.70	T.	.31	.25		.11		.17			2.04
Mount Pleasant	Saginaw																																
Muskegon	Muskegon										.50		.36												.58			T.					1.44
Old Mission	Lake										.77		.47									.16			.70		.22						2.32
Olivet	Kalamazoo						.07			.16			.20										.22		T.			1.22		.01			1.88
Omer	Lake												.75									.80				T.							1.55
Onaway	Cheboygan									.40	.30	.60													.50								1.80
Ovid	Grand							.03			.05		.02	.16									.33	.12	T.	1.83		.79					3.33
Owosso	Saginaw									.01			.24	.18									.81		1.91			.52					3.67
Petoskey	Lake																					.10			.23								
Plymouth	Rouge												.75										.04	.10						.64			1.53
Pontiac	Clinton										T.		.37				.25						.23	T.	.35	.30		.27					1.77
Port Austin	Lake																																
Port Huron	St. Clair						T.	.01		T.	T.		.70				T.					.04	T.		4.11			.12		.15			5.13
Reed City	Muskegon										.20		.40																				
Roscommon	Au Sable										.80					.01						.05	.15		.11		.24						1.36
Saginaw	Saginaw												.05								T.	.03	.01		.18		T.	.05		.12			0.46
Saginaw, W. S	do												.11									.06		.06	.24		T.		.10	.44			1.01
St. James	Lake										.50		.40			.25									.44		.15						1.74
St. Joseph	St. Joseph											T.	T.																				T.
Sandusky	Lake							.04			.45		.06									.10	.13		.16				2.06				3.00
Saranac	Grand						.11						.69										.15		.63			.52					2.10
South Haven	Lake										.78												.75					.05					1.58
Stanton	Grand										.06		.03																				
Thornville	Saginaw									.20			1.12										.15		2.60			.25		.20			4.52
Traverse City	Lake									1.33			1.00												.50		.25						3.08
Vassar	Saginaw																					T.			.35								0.35
Wasepi	St. Joseph						.05			.23			.53			.06							1.72	.07			.02	.54					3.22
Webberville	Grand						T.			.15	.05		T.				.30				.03	.02	T.	.08				.85		.61			2.04
West Branch	Lake												.24																				
Woodlawn	Au Sable										.70		1.00				.09					.25			.50		.04			T.			2.58
Ypsilanti	Lake						.51	.02		T.	.01		1.06	.02			.38						T.	.02				.64					3.26
Ohio.																																	
Akron[‖]	Lake			T.		.20		.07	T.					.37			.02	.71							T.			.41	.50		T.		2.48
Benton Ridge	Maumee						.90	T.		T.	.50		.39	.39														.30					2.48
Bowling Green	Lake						.20				.10		.48	.28									.16	.05		.14		.50					1.91
Bucyrus[‖]	Sandusky			T.	T.			.23			.05			.50			T.									.10		.20	.50				1.60
Cleveland (1)	Lake						.11	.03	.03				.24	.06			T.	T.					.02	T.	.02		.18	.25					0.94
Cleveland (2)	do						.30	.10		T.			.39	.05			T.								.12		.30	.23					1.49
Conneaut	do						.22	.40			.23		2.00	.10				T.					.22			.26		T.	.26		.76		4.45
Defiance[‖]	Maumee							.02			.05		.14	.61			.05							.02		.28		.99					2.16
Findlay[‖]	do						T.	.72			.40	T.	.15	.48			.07		T.									.37	.43				2.62
Fremont	Sandusky						.33			.04			.39										.20					.95					1.91
Hedges	Maumee						.23			.03			.20			T.									.10			1.19					1.75
Hillhouse	Lake						.30	.10	T.				.25	.12				.50					T.			T.		.25	.30		.10		1.92
Hiram	do			T.			.22	.10			.09		.46				.11	.05						.01		T.		.49					1.53
Hudson	do						.46	.18					.98			.27	1.39							.02				.49	.22				4.01
Lima	Maumee						.36	.06		.09	.41		.32			T.												.97					2.21
Medina	Lake						.46				T.		.30					T.						.06					.97					1.79
Montpelier	Maumee									.06			.80			2.40	T.						.88		.25		.08	1.00					5.47
Napoleon	do						.22			T.			.99	.34		T.							.15	.17		.07		.67					2.61
New Bremen	do			.15			.98			1.28	.23		.64			T.												.99		.10			4.37
North Royalton	Lake						.20	.03					.26															1.07					1.81
Norwalk[‖]	do							.12						.44											.14			1.36	.35				2.41
Oberlin	do	T.					.07	T.			T.		1.22	.02									.33					.28					1.92
Ottawa	Maumee						2.04			.03	.02		.54	.60		.01												.15					3.39
Sandusky	Lake						.53				.02		.25	.02		.29	.01						.15				.16	.24			.09		1.76
Tiffin	Sandusky,						1.85	T.		T.	T.		.65	.15		.12	.01	T.					T.	.10		T.		.84					3.72
Toledo (1)	Maumee						.41			T.	.03		.54				.07	T.					1.00		.18		.09	.97					3.29
Toledo (2)	do						.43	.02			.03		.51				.10	.01					1.00	.02		.15		.93					3.20
Upper Sandusky	Sandusky						T.	.21					.61	.09														.89	T.				1.80
Vickery	Lake						.19	.28			.02		.17	.08			.23		.03				.19	T.				.63				.01	1.83
Wauseon[‖]	Maumee							.11			.08		.07	.35			.06							1.37	T.	.15		1.77	.12				4.08
Wellington	Lake						.03					.06	.65			.33	.03											.52					1.62
Willoughby[‖]	do							.40										.48										.26					1.14

TABLE 2.—*Daily precipitation for July, 1910. District No. 4*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Pennsylvania.																																	
Erie	Lake						.26	.06			.11		2.00	.18			.30						.01		.06	.38		T.		.46			3.82
New York.																																	
Adams Center	Lake							.23			.07		.10	.14			.47					.11	.09	T.		.51					.47		2.19
Angelica	Genesee							.48			.14	.15	.56	1.22			.16	.04						.41		.12							3.28
Appleton	Lake							.34			.04		.11	.07			.66					.10	.97		.84			.14		.08			3.35
Auburn	Oswego							.40			.04		.60	.25			.50						.10			.75		.30		.45			3.39
Avon	Genesee							.70			.17		1.02	.17			.48									1.67				T.	.23		4.44
Blue Mountain Lake	Raquette			T.				.17			T.						.23					T.						.77		.55	.23	.35	2.30
Brockport	Lake							.14			.01		.33	.05			.80					.05	.96		T.	.50		T.	.02		.06		2.92
Buffalo	Lake						T.	.40			.12		1.06	.08			.31					T.	T.		3.08	.02		T.		.26			5.33
Canton	St. Lawrence	T.						.80	T.		.01		.03	.10		.31	.03					.09	.07		.03	.02	.04	.11		.07	.23		1.94
Cape Vincent	do							.09			.06		.04	.19			1.08						.04			.27			.18		.23		2.18
Carvers Falls	Lake																.60						.70			.10					.10		1.50
Chasy	do	.15						.05			1.00											.75					T.						1.95
Dannemora	do			1.31	T.			.05	.22		.40	.07		.07			.01					.04	.10	.19	T.	.01	.01		.19		.29	.08	3.04
Elba	do							.10			.10		.70	.25			.60					T.	.40			1.05				T.			3.20
Fayetteville	Oswego							.25			.01		.10	.33			.33						.27			.67			.51		.20		2.67
Gabriels	Lake			.21				.14	.08		.80	.30		.07		.56	.10		T.	.39		.03	.50			.05	.07		.22		.75	.02	4.29
Harkness	do			.41				.31			.60	.06		.28			.05		.04			.01	.31			.11			.85		.22	T.	3.23
Hemlock Lake	Genesee										.41		.76															T.		.55			1.72
Hunt	do							.30			.08		.80	.18			.68								.20					.72			2.96
Ithaca	Oswego							.03			T.		.50	.05			.73					T.			.06	T.		.13	T.	.12			1.62
Keene Valley	Au Sable			.09				.03						.04		.06	.12		.04			.04	T.			.12	.08		.75	T.	.25	.02	1.64
King Ferry	Oswego							.28			.11		.15				.46								.12	.18		.22	.08	.16			1.77
Lake George	Lake							.07			.03						.45					T.	.38			.15	T.		.52		.09		1.69
Lake Placid Club	Au Sable, W. Br.			.42				.60	.10			.20		.10		.34			.08			.05	.08			.04	.12		.65		.04	.05	2.87
Le Roy	Genesee							.33			.05		.98	.04			.37					T.	.02		1.31	.36				.08	.27		3.81
Lockport	Lake							.32			.01		.11	.07			.70					.23	.77		.93	.10		.02		.13			3.39
Lowville	do							.20			.18		T.	.80			.78					.03	.20			.30					.40		2.89
Lyndonville	do							.26			.56						.51						1.20		.58			.12					3.23
Moira	St. Lawrence	.02		.65				1.22	.02		T.		.02	.20			T.		.05			.05	.40	.47		.21			.06		.05		3.42
Nehasane	Lake							.23	.03		.25	.02		.57			.64				.15	.04	.08			.39	.23		.11		.35	.15	3.24
North Lake	do						.30							.20			.65			.14		.04	.65			.34	.21						2.49
Ogdensburg	St. Lawrence	T.						.35		T.	T.		1.50			.03					.05	.07			.10		.04	.03	.10	.14		2.41
Old Forge	Lake							.70			1.75		.03	.23			.15			.10		.05	.04				.03	.01		2.07			5.16
Oswego	do							.36			.86		.38	.01			.73					.03	.40		.40	T.		.04		.20			3.41
Otto	do							.24			.74	.02	1.04	.32			.23									.65			.15	T.	1.23			4.62
Palermo	do							T.			.30	.30	T.	.81			.74					.02	.64			.35		.12		.26	.02	T.	3.66
Perry City	do							.03	.02		.14			.19	.73		.72							T.		.16		.05	.08		.16		2.28
Philadelphia	St. Lawrence							.33	.04		T.	.07	.03	.23		T.	.80					T.	T.			.26	T.		.05	T.	.34		2.15
Plattsburg	Lake			.75	T.			.25	T.		.90	.05		.10	T.		T.		.05	T.		.05	.05	T.	.20	T.	T.	T.	T.	T.	.60	T.	3.00
Potsdam	St. Lawrence		.01	.11					.07			.01		.22			.03						.21			.03		.01	.18		.09	.03	1.00
Raquette Lake	Raquette							.21	.04		T.	.05	.47				.54			.06	.20	.11	.08			.36	.11	.04	.31		.62		3.20
Rochester	Genesee							.23			.17		.92	.03			.38					.01	.73		.75			.01		.20			3.43
Romulus	Oswego							.06					.20	.43			.18											T.	.09		.19			1.15
Shortsville	do							.29	.17		.10		1.72	.13			.22						.12			1.68	T.				.18			4.61
Skaneateles	do							.32		T.	.11		.30	.50			.32					T.	.06		T.	.60		.40	.01		.40			3.02
Syracuse	do							.30			.06		.21	.33			.33					T.	.28		.25	.18		.83		.17	.02			2.96
Ticonderoga	Lake				T.						.01			.04			.73	T.					.02			.05		.06			.05			0.96
Trudeau	do																																
Tupper Lake	Raquette							.20	.20		.70	.18		.10		.18	.30			.01		.03	.03			.23	.11	T.	.38		.76	.03		3.44
Volusia	Lake							.03					.35	.20			.43									.29					.96			2.26
Wanakena	Oswegatchie							.22	.10		.46	.04		.16			.45					.02	.04			.28	.12		.56		.35	.23		3.03
Watertown	Lake							.27			.28		.04				1.08					.03	.14			.54	T.		.12		.24			2.74
Wedgewood	Oswego							.06			.14		.40	.48			.46	.04				T.		.03				.11			.27			1.99
Westfield	Lake							.02			T.	.02	1.10	.51			T.	.43					T.			.23				1.21			3.52
Youngstown	do							.67			.12		.26	.09			.46					1.48			.97			.19		.11			4.35
Vermont.																																	
Burlington	Lake			.57	T.			.36	.01		.01		T.	.18		.01	.02		T.			.09	.32		T.	T.	.03	.93	.08		.45	T.		3.06
Cornwall	do			T.	.02			.10			.40		.30				.10		.05			.05	.05			.01	.52				.40			2.05
Enosburg Falls	do	T.		.15				.15	.22		.05	.15		.22		T.			T.	.11	T.	.13	.03	.15		T.	.05	T.	.64		.25	.15	2.45
Northfield	do			.11	.03			.09			.28	.01		.58		.11	.14			T.		.10	.05		.06	.03	.01	.27	.01		.07	.02	1.96
Rutland	do																																
Wells	do								.02		.11	.16		T.			.42			T.		.07	.37			.43	.05		.36		.05			2.04

TABLE 3.—*Maximum and minimum temperatures at selected stations, July, 1910. District No. 4, Lake Region.*

Date.	Wisconsin.						Michigan, Upper Peninsula.						Michigan, Lower Peninsula.											
	Duluth, Minn.		Florence.		Green Bay.		Milwaukee.		Chicago, Ill.		Fort Wayne, Ind.		Escanaba.		Ewen.		Houghton.		Marquette.		Sault Ste. Marie		Alpena.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	82	58	86	54	90	58	88	68	86	68	86	62	100	54	86	52	84	52	86	54	86	52	88	56
2	84	58	88	56	92	60	90	70	88	70	88	64	96	56	88	52	86	52	88	56	88	54	90	58
3	86	62	90	58	94	62	92	72	90	72	90	66	98	58	90	54	88	54	90	58	90	56	92	60
4	88	64	92	60	96	64	94	74	92	74	92	68	100	60	92	56	90	56	92	60	92	58	94	62
5	90	66	94	62	98	66	96	76	94	76	94	70	102	62	94	58	92	58	94	62	94	60	96	64
6	92	68	96	64	100	68	98	78	96	78	96	72	104	64	96	60	94	60	96	64	96	62	98	66
7	94	70	98	66	102	70	100	80	98	80	98	74	106	66	98	62	96	62	98	66	98	64	100	68
8	96	72	100	68	104	72	102	82	100	82	100	76	108	68	100	64	98	64	100	68	100	66	102	70
9	98	74	102	70	106	74	104	84	102	84	102	78	110	70	102	66	100	66	102	70	102	68	104	72
10	100	76	104	72	108	76	106	86	104	86	104	80	112	72	104	68	102	68	104	72	104	70	106	74
11	102	78	106	74	110	78	108	88	106	88	106	82	114	74	106	70	104	70	106	74	106	72	108	76
12	104	80	108	76	112	80	110	90	108	90	108	84	116	76	108	72	106	72	108	76	108	74	110	78
13	106	82	110	78	114	82	112	92	110	92	110	86	118	78	110	74	108	74	110	78	110	76	112	80
14	108	84	112	80	116	84	114	94	112	94	112	88	120	80	112	76	110	76	112	80	112	78	114	82
15	110	86	114	82	118	86	116	96	114	96	114	90	122	82	114	78	112	78	114	82	114	80	116	84
16	112	88	116	84	120	88	118	98	116	98	116	92	124	84	116	80	114	80	116	84	116	82	118	86
17	114	90	118	86	122	90	120	100	118	100	118	94	126	86	118	82	116	82	118	86	118	84	120	88
18	116	92	120	88	124	92	122	102	120	102	120	96	128	88	120	84	118	84	120	88	120	86	122	90
19	118	94	122	90	126	94	124	104	122	104	122	98	130	90	122	86	120	86	122	90	122	88	124	92
20	120	96	124	92	128	96	126	106	124	106	124	100	132	92	124	88	122	88	124	92	124	90	126	94
21	122	98	126	94	130	98	128	108	126	108	126	102	134	94	126	90	124	90	126	94	126	92	128	96
22	124	100	128	96	132	100	130	110	128	110	128	104	136	96	128	92	126	92	128	96	128	94	130	98
23	126	102	130	98	134	102	132	112	130	112	130	106	138	98	130	94	128	94	130	98	130	96	132	100
24	128	104	132	100	136	104	134	114	132	114	132	108	140	100	132	96	130	96	132	100	132	98	134	102
25	130	106	134	102	138	106	136	116	134	116	134	110	142	102	134	98	132	98	134	102	134	100	136	104
26	132	108	136	104	140	108	138	118	136	118	136	112	144	104	136	100	134	100	136	104	136	102	138	106
27	134	110	138	106	142	110	140	120	138	120	138	114	146	106	138	102	136	102	138	106	138	104	140	108
28	136	112	140	108	144	112	142	122	140	122	140	116	148	108	140	104	138	104	140	108	140	106	142	110
29	138	114	142	110	146	114	144	124	142	124	142	118	150	110	142	106	140	106	142	110	142	108	144	112
30	140	116	144	112	148	116	146	126	144	126	144	120	152	112	144	108	142	108	144	112	144	110	146	114
31	142	118	146	114	150	118	148	128	146	128	146	122	154	114	146	110	144	110	146	114	146	112	148	116
Mns	76.6	57.7	80.8	53.2	84.1	60.7	81.3	65.7	82.8	69.1	80.5	61.8	75.7	57.4	70.9	48.5	76.7	57.5	74.7	57.8	76.2	53.6	79.4	57.3

Date.	Michigan, Lower Peninsula.												Ohio.											
	Battle Creek.		Cadillac.		Detroit.		Muskegon.		Saginaw, W. S.		Cleveland.		Lima.		Sandusky.		Toledo.		Erie, Pa.		Buffalo.		Canton.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	86	58	86	54	86	58	86	56	86	58	86	62	86	62	86	62	86	62	86	62	86	62	86	62
2	88	60	88	56	88	60	88	58	88	60	88	64	88	64	88	64	88	64	88	64	88	64	88	64
3	90	62	90	58	90	62	90	60	90	62	90	66	90	66	90	66	90	66	90	66	90	66	90	66
4	92	64	92	60	92	64	92	62	92	64	92	68	92	68	92	68	92	68	92	68	92	68	92	68
5	94	66	94	62	94	66	94	64	94	66	94	70	94	70	94	70	94	70	94	70	94	70	94	70
6	96	68	96	64	96	68	96	66	96	68	96	72	96	72	96	72	96	72	96	72	96	72	96	72
7	98	70	98	66	98	70	98	68	98	70	98	74	98	74	98	74	98	74	98	74	98	74	98	74
8	100	72	100	68	100	72	100	70	100	72	100	76	100	76	100	76	100	76	100	76	100	76	100	76
9	102	74	102	70	102	74	102	72	102	74	102	78	102	78	102	78	102	78	102	78	102	78	102	78
10	104	76	104	72	104	76	104	74	104	76	104	80	104	80	104	80	104	80	104	80	104	80	104	80
11	106	78	106	74	106	78	106	76	106	78	106	82	106	82	106	82	106	82	106	82	106	82	106	82
12	108	80	108	76	108	80	108	78	108	80	108	84	108	84	108	84	108	84	108	84	108	84	108	84
13	110	82	110	78	110	82	110	80	110	82	110	86	110	86	110	86	110	86	110	86	110	86	110	86
14	112	84	112	80	112	84	112	82	112	84	112	88	112	88	112	88	112	88	112	88	112	88	112	88
15	114	86	114	82	114	86	114	84	114	86	114	90	114	90	114	90	114	90	114	90	114	90	114	90
16	116	88	116	84	116	88	116	86	116	88	116	92	116	92	116	92	116	92	116	92	116	92	116	92
17	118	90	118	86	118	90	118	88	118	90	118	94	118	94	118	94	118	94	118	94	118	94	118	94
18	120	92	120	88	120	92	120	90	120	92	120	96	120	96	120	96	120	96	120	96	120	96	120	96
19	122	94	122	90	122	94	122	92	122	94	122	98	122	98	122	98	122	98	122	98	122	98	122	98
20	124	96	124	92	124	96	124	94	124	96	124	100	124	100	124	100	124	100	124	100	124	100	124	100
21	126	98	126	94	126	98	126	96	126	98	126	102	126	102	126	102	126	102	126	102	126	102	126	102
22	128	100	128	96	128	100	128	98	128	100	128	104	128	104	128	104	128	104	128	104	128	104	128	104
23	130	102	130	98	130	102	130	100	130	102	130	106	130	106	130	106	130	106	130	106	130	106	130	106
24	132	104	132	100	132	104	132	102	132	104	132	108	132	108	132	108	132	108	132	108	132	108	132	108
25	134	106	134	102	134	106	134	104	134	106	134	110	134	110	134	110	134	110	134	110	134	110	134	110
26	136	108	136	104	136	108	136	106	136	108	136	112	136	112	136	112	136	112	136	112	136	112	136	112
27	138	110	138	106	138	110	138	108	138	110	138	114	138	114	138	114	138	114	138	114	138	114	138	114
28	140	112	140	108	140	112	140	110	140	112	140	116	140	116	140	116	140	116	140	116	140	116	140	116
29	142	114	142	110	142	114	142	112	142	114	142	118	142	118	142	118	142	118	142	118	142	118	142	118
30	144	116	144	112	144	116	144	114	144	116	144	120	144	120	144	120	144	120	144	120	144	120	144	120
31	146	118	146	114	146	118	146	116	146	118	146	122	146	122	146	122	146	122	146	122	146	122	146	122
Mns	83.4	64.4	82.0	62.8	86.3	59.1	79.5	65.2	83.6	62.6	82.7	66.8	84.4	65.1	79.0	64.5	76.9	63.3	80.7	58.1	81.9	62.1	80.3	62.3

Date.	Ohio.						New York.						Vermont.			
	Sandusky.		Toledo.		Erie, Pa.		Buffalo.		Canton.		Rochester.		Syracuse.		Burlington.		Northfield.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	86	62	86	62	86	62	86	62	86	62	86	62	86	62	86	62	86	62
2	88	64	88	64	88	64	88	64	88	64	88	64	88	64	88	64	88	64
3	90	66	90	66	90	66	90	66	90	66	90	66	90	66	90	66	90	66
4	92	68	92	68	92	68	92	68	92	68	92	68	92	68	92	68	92	68
5	94	70	94	70	94	70	94	70	94	70	94	70	94	70	94	70	94	70
6	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72	96	72
7	98	74	98	74	98	74	98	74	98	74	98	74	98	74	98	74	98	74
8	100	76	100	76	100	76	100	76	100	76	100	76	100	76	100	76	100	76
9	102	78	102	78	102	78	102	78	102	78	102	78	102	78	102	78	102	78
10	104	80	104	80	104	80	104	80	104	80	104	80	104	80	104	80	104	80
11	106	82	106	82	106	82	106	82	106	82	106	82	106	82	106	82	106	82
12	108	84	108	84	108	84	108	84	108	84	108	84	108	84	108	84	108	84
13	110	86	110	86	110	86	110	86	110	86	110	86	110	86	110	86	110	86
14	112	88	112	88	112	88	112	88	112	88	112	88	112	88	112	88	112	88
15	114	90	114	90	114	90	114	90	114	90	114	90	114	90	114	90	114	90
16	116	92	116	92	116	92	116	92	116	92	116	92	116	92	116	92	116	92
17	118	94	118	94	118	94	118	94	118	94	118	94	118	94	118	94	118	94
18	120	96	120	96	120	96	120	96	120	96	120	96	120	96	120	96	120	96
19	122	98	122	98	122	98	122	98	122	98	122	98	122	98	122	98	122	98
20	124	100	124	100	124	100	124	100	124	100	124	100	124	100	124	100	124	100
21	126	102	126	102	126	102	126	102	126	102	126	102	126	102	126	102	126	102
22	128	104	128	104	128	104	128	104	128	104	128	104	128	104	128	104	128	104
23	130	106	130	106	130	106	130	106	130	106	130	106	130	106	130	106	130	106
24	132	108	132	108	132	108	132	108	132	108	132	108	132	108	132	108	132	108
25	134	110	134	110	134	110	134	110	134	110	134	110	134	110	134	110	134	110
26	136	112	136	112	136	112	136	112	136	112	136	112	136	112	136	112	136	112
27	138	114	138	114	138	114	138	114	138	114	138	114	138	114	138	114	138	114
28	140	116	140	116	140	116	140	116	140	116	140	116	140	116	140	116	140	116
29	142	118	142	118	142	118	142	118	142	118	142	118	142	118	142	118	142	118
30	144	120	144	120	144	120	144	120	144	120	144	120	144	120	144	120	144	120
31	146	122	146	122	146	122	146	122	146	122	146	122	146	122	146	122	146	122
Mns	82.7	66.8	84.4	65.1	79.0	64.5	76.9	63.3	80.7	58.1	81.9	62.1	80.3	62.3	79.8	58.5	79.1	53.0

Climatological Data for July, 1910.
DISTRICT No. 5, UPPER MISSISSIPPI VALLEY.

GEORGE M. CHAPPEL, District Editor.

GENERAL SUMMARY.

There was a wide range in the character of the weather that prevailed during July over the upper Mississippi Valley. While many sections in the northern half of the district were suffering from high temperatures and severe drought conditions the southern sections were having an excess of rainfall and normal or subnormal temperatures.

There have been a few warmer and drier months of the same name during the past 40 years, but it is believed that the deficiency of precipitation in the northern States for the past seven months, January to July, inclusive, has been greater than for any like period since the establishment of the Weather Service. The average rainfall for the whole of Iowa for the past month is 1.86 inch, as compared with 0.63 inch in July, 1894, the driest July on record, but the total precipitation for the first seven months of 1894 was 12.25 inches as compared with 10.94 inches for the same period this year. The prolonged deficiency in precipitation is seriously affecting vegetation, and the stage of the rivers, and is causing many of the smaller streams and shallow wells to go dry. On the other hand, frequent and heavy rains over Missouri and southern Illinois have interfered with farm work and caused, at some time during the month, flood stages in the small streams and creeks.

TEMPERATURE.

The average temperature did not vary materially from the normal; the departures ranging from +3.2° in North Dakota to −1.3° at Hannibal, Mo. July, 1910, will, however, be remembered over the northern section of the district as a hot, dry month, due to the fact that the maximum temperatures on many days ranged from 90° to over 100°. The night temperatures were, with a few exceptions, moderate, thereby keeping the average down to a little above the normal. The mean temperature ranged from 69.2° in North Dakota to 76.2° in Illinois, and while the average was higher in the southern sections, the highest maximum temperatures were recorded in the northern sections. Periods of high temperature, of from one to four days' duration, were interspersed throughout the month, but the monthly maximum temperature was recorded at most of the stations in North Dakota and Minnesota between the 14th and 16th, inclusive; in Wisconsin on the 1st; in Iowa in the 16th or the 24th; and in Missouri and Illinois on the 24th, 25th, or 26th.

The mean temperature for the district, as shown by the records of 293 stations, was 73.1°, which is 1.5° above the normal. The highest monthly mean was 79.4° at Carbondale, Ill., and the lowest, 64.3° at Hannah, N. Dak. The highest temperature recorded was 108° at Ridgeway, Iowa, on the 16th, and the lowest, 30° at Long Lake, Wis., on the 18th.

PRECIPITATION.

Showers were quite frequent in all sections, but they were so badly distributed geographically, and the amounts of rainfall were generally so small that the larger part of the district suffered from droughty conditions during the entire month, and yet there were localities where the showers were timely and the rainfall sufficient, though light, to prevent any material damage to vegetation. In other localities, the monthly rainfall was very nearly or above the normal amounts, but it came generally in one heavy shower which afforded only temporary relief. Over Missouri, southern Illinois, and extreme southeastern Iowa the rainfall was above the normal and was fairly well distributed throughout the month, although the bulk of it fell on two or three days. With one or two exceptions, it was the driest July on record in the northern sections of the district. In view of the fact that the preceding month was so hot and dry and the deficit in precipitation since March 1 was so great, the condition in North Dakota was unprecedented.

The average precipitation for the district, as shown by the records of 308 stations, was 2.22 inches, which is 1.61 inch below the normal. The greatest amount, 12.02 inches, occurred at Steffenville, Mo., and the least, a trace, at Grafton, N. Dak. Measurable precipitation occurred on an average of six days.

EXCESSIVE PRECIPITATION.

Excessive precipitation occurred as follows: At Davenport, Iowa, on the 14th, 2.01 inches were recorded between 11:13 a. m. and 12:55 p. m. During the same storm, 1.59 inch was registered in the 22 minutes ending at 11:59 a. m. At Hannibal, Mo., on the 14th, 0.53 inch fell in 15 minutes. During a thunderstorm on the night of the 28-29th, 0.67 inch fell between 11:53 p. m. of the 28th and 12:22 a. m. of the 29th, and 3.84 inches fell during the 2 hours ending at 3:20 a. m. During the same storm, 4.84 inches fell in 5 hours and 41 minutes.

The cooperative observer at Steffenville, Mo., reports that a violent thunderstorm occurred at that place during the night of the 28-29th, beginning about 10 p. m. Six horses and one cow were killed by the lightning; two barns were burned, and several other buildings were struck and damaged by the lightning. The rain fell in torrents, over 5 inches falling in less than 5 hours. Considerable damage was done to crops by overflowing streams, but no human lives were lost. At Cairo, Ill., on the 2d, 0.48 inch fell in 15 minutes; on the 3d, 0.36 inch fell in 15 minutes; on the 5th, 0.39 inch fell in 15 minutes, and 1.09 inch in 35 minutes; and on the 17th, 0.41 inch fell in 20 minutes. At Devils Lake, N. Dak., on the 23d, 0.51 inch fell in 30 minutes. At Peoria, Ill., on the 28th, 1.44 inch fell in one hour.

SUNSHINE AND CLOUDINESS.

The average number of clear days was 18, partly cloudy, 9; and cloudy, 4. The duration of sunshine was above the normal.

WIND.

Southwest winds prevailed. The highest velocity reported was 39 miles an hour, from the north, at Cairo, Ill., on the 17th.

MISCELLANEOUS.

Owing to the dryness of the ground in North Dakota, much damage was caused by prairie fires. The forest fires, which were especially severe in the northern counties of Wisconsin, were checked by the rain on the 23d and 24th.

Although the drought has been severe, and very damaging in certain localities, it has had its advantages. Much of the bottom lands in Iowa and western Minnesota that have heretofore been too wet to cultivate, are this year producing the most bountiful crops.

Thunderstorms were quite frequent, but were generally feeble and less damaging than usual. There was also less than the usual amount of damage done by the wind. The Secretary of the Iowa Mutual Tornado Insurance Association, in a letter to the district editor, says: "Following is a list of losses sustained and paid by this association for the month of July, during the past five years. 1906, $2,124.46; 1907, $7,640.36; 1908, $16,609.85; 1909, $5,886.80; 1910, $885.20." A loss of only $850.20, on an assessable capital of $147,000,000 demonstrates that in Iowa at least, there were very few wind squalls.

The worst hailstorm reported occurred in northern Todd and southern Wadena counties, Minnesota, on the 27th. The following is an excerpt from an account of the storm as published in the Todd County Argus, Long Prairie, Minn.:

A heavy hail storm passed over northern Todd and southern Wadena counties on July 27, killing stock, knocking the shingles off the roofs, and

destroying what was left of the crops after the long drought. Hailstones as big as base balls were picked up after the storm. Crops were pounded into the ground and totally destroyed. At the John Holper's farm, south of Wadena, a cow was killed and another struck in the eye and blinded. At another place, hogs, sheep, and poultry were killed. All houses in the path of the storm lost the window glass on the south and west sides, and cattle and horses were seriously injured by breaking through the wire fences to reach shelter. It is said that some of the hailstones that fell on John Holper's farm weighed 5 pounds.

RIVERS.

The average stage of all rivers in the district was much below the normal, but some of the smaller streams in Missouri and southern Illinois were at flood stage at some time during the month, due to heavy local showers.

The prolonged period of deficiency in precipitation, extending from March 1 to the end of July, caused a very low stage of water in the Mississippi and Minnesota rivers. Business was interrupted to a considerable degree, particularly on the former stream, and it was difficult to get sufficient water pressure to supply the water mains in a number of the cities.—*U. G. Purssell, Section Director.*

The rivers were extremely low in Wisconsin and at some stations the stages were the lowest ever known during July.—*H. B. Hersey, Inspector.*

The highest stage of the Mississippi, at Dubuque, Iowa, was 1.9 foot on the 1st, or 1.6 foot lower than any July maximum stage at this station in 37 years, and probably the lowest maximum stage ever known in July. Minimum, 0.6 foot on the 29th and several other dates, or 0.6 foot lower than any stage known in July during the past 37 years, and probably the lowest ever known in July. (The low water of 1864 was recorded later in the summer. The exact stage during July, 1864, is unknown.) River traffic was almost completely suspended during the month. The Diamond Jo steamer, *Sidney*, left Dubuque on her last trip to St. Louis on the 4th. The *St. Paul* and *Quincy* have not run all the summer, owing to low water. The *Eclipse*, the regular packet between Dubuque and Prairie Du Chien, was unable to run after the 8th, owing to low water, but made several excursion trips to Bellevue during the month. Log rafts, much smaller than the ususal size were brought down the river at intervals, and Dubuque lumber mills were kept in operation during the month, but it is understood that mills farther down the river have been obliged to close, owing to inability to obtain logs. It is believed that never before in the history of navigation on the upper Mississippi River has traffic been so completely interrupted by low water so early in the season as at present. The Wisconsin River, it is said by old settlers, is experiencing the lowest continued low water for 20 years, many mills along the river have been shut down for several weeks or running only half time for want of water. The lakes in the Eagle River region are reported lower than for many years. Crews are engaged all along the river in raising sunken logs; the extreme low water making the logs easy to get at.—*J. H. Spencer, Local Forecaster.*

At the close of July the Mississippi River had fallen to 0.6 foot at Davenport, Iowa, which is the lowest during the season of navigation since 1895, when the lowest gage reading was only 0.1 foot on September 14. The lowest stage in the history of the local station, during the months when the river was free from ice, was 0.0, on October 1 and 2, 1891. Because of the very low water, no regular passenger or excursion steamers have gone over the Le Claire Rapids since early in the month just passed. Regular trips are still being made to Burlington, Iowa, by the boats of the Carnival City Packet Company, though on July 13 the *Helen Blair*, one of the steamers of that company, struck upon an isolated rock a short distance below Davenport and injured her bottom so badly that she has since been out of commission. The passengers, crew, and all the cargo were saved, and the steamer has been raised and is being repaired.—*J. M. Sherier, Local Forecaster.*

At Keokuk, Iowa, the Mississippi River is at an unusually low stage, and navigation has nearly been abandoned on account of the low water.—*Fred Z. Gosewisch, Observer.*

Notwithstanding the excessive rainfall, the Mississippi River, between Keokuk, Iowa, and Hannibal, Mo., is reported to be lower than during any July in 20 years or more, and navigation has practically ceased.—*George Reeder, Section Director.*

The maximum stage of the Des Moines River at Des Moines, Iowa, was 2.7 feet on the 1st, and the minimum was 1.7 foot on the 10th, which is the lowest reading on record for July.

The observer at Hannibal, Mo., reports:

On the night of the 28–29th a severe thunderstorm, accompanied by excessive rainfall, occurred at or near Hannibal, Mo., which caused Bear Creek to rise with great rapidity and to an unusual height. The bottom lands were overflowed from beyond Oakwood to Main street. Crops and gardens were destroyed and much stock drowned. Many residences were flooded, and from a number the occupants had to be rescued in boats. The north end of the Chicago, Burlington and Quincy Railroad bridge, generally known as the K. Line Bridge, was undermined and settled down; the Main Street Wagon Bridge was partly undermined, and the Third Street Bridge went out, as well as numerous small bridges. The city streets and country roads were badly washed. It is estimated that the damage in Hannibal will amount to from $75,000 to $100,000.

In the extreme southern part of Illinois, great damage was done to growing crops by the inundation from the Cache River. In Johnson County alone, a loss of $100,000 was estimated. Not only was corn destroyed, but roads were washed out, bridges carried away, culverts damaged, and fences destroyed.

DRAINAGE AND ENGINEERING NOTES.

Mr. A. D. Morehouse, Acting Chief of Drainage Investigations, has furnished the following: "The drainage survey of the upper Des Moines River being conducted by Drainage Investigations, Office of Experiment Stations, United States Department of Agriculture, was continued during the month of July. All lines of the preliminary survey are completed to the north line of Palo Alto County, which is as far upstream as it is practicable to run the survey.

H. A. Kipp, Drainage Engineer, has completed the examinations in southern Iowa and is now cooperating with Mr. Baxter on the Des Moines River survey. S. H. McCrory has about completed similar examinations in northern Iowa.

As mentioned in the July Review, all of this work is under the direction of C. G. Elliott, Chief of Drainage Investigations, in cooperation with the Iowa State Drainage, Waterways, and Conservation Commission."

During July, the United States Army Engineers, under the supervision of Mr. A. O. Rowse, continued the survey of the Des Moines River.

Topography on both sides of the river, covering area subject to overflow, soundings and probings of the river bottom, and levels to determine the water slope were taken for a distance of 27 miles, measured along the river, and 16 miles of topography were platted. At the end of the month the party was camped near Howell, Iowa.

A ditch to cost in the neighborhood of $100,000 is soon to be constructed in what is known as Boone-Story Drainage District No. 3, or the Goose Lake drain. The county auditors of the two counties have advertised for bids for the construction of the same. This is one of the largest drainage propositions that has been put in this part of the State. The drain originates in Boone County, and runs in a southeasterly direction, enters Story County, about midway between Slater and Kelley and has Skunk River as an outlet. It will drain a vast area of land. There is a stretch of over 5¼ miles of open work, all of it to be 8 feet wide at the bottom, and part of it as wide as 48 feet at the top. The tile portion of the drain proper and tributaries consists of over 13 miles, the tile ranging in size from 6 to 30 inches.—*Marshaltown, Iowa, Times-Republican.*

St. Paul, Minn., July 12.—Although the passage of the river and harbor bill by Congress providing for the completion of the

upper Mississippi River Channel within 12 years ended the work originally designed by the Upper Mississippi River Improvement Association, that body still has much to do in providing better facilities for transportation. This subject is the chief one for discussion at the ninth annual convention of the association, which opened here to-day.

Delegates were named by the governors, mayors, and various organizations of Illinois, Missouri, Iowa, Minnesota, and Wisconsin, and there was a large attendance when President Wilkinson, of Burlington, Iowa, rapped for order. The commercial associations of St. Paul have made elaborate plans to entertain the delegates for luncheons and a banquet.—*Tingley, Iowa, Vindicator.*

An appropriation was made by the Iowa State Drainage, Waterways, and Conservation Commission for the completion of the Boone River Survey which was begun early in the summer by Mr. Dobson but has never been finished. Mr. Hites was instructed to make as complete a survey of the Boone River, from Webster City to its junction with the Des Moines River, as will be possible with the funds available. This survey is to be made in order that a report on the water-power possibilities of the stream may be incorporated in the commission's report to the coming legislature, and is very important since the Boone River is a typical northern Iowa stream, and the work done upon it can safely be used as a basis for calculating, in a rough way, the water-power facilities of larger Iowa streams.

Some very valuable data on the water-power plants of the State are now being assembled by the secretary of the commission. It is thought by the time the report is complete, the horsepower, head, type of wheels and number of hours per year of operation of each water-power plant in the State will be known. There are at present about 100 water-power mills and hydroelectric plants in operation in Iowa.

TABLE 1.—*Climatological data for July, 1910. District No. 5, Upper Mississippi Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days. .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	Prevailing wind direction.	
North Dakota.																			
Amenia	Cass	954	12	72.1	+ 4.7	102	15	45	10	50	1.19	− 1.59	0.50	0.0	3	21	7	3	nw.	C. E. Wood.
Bottineau	Bottineau	1,638	14	68.0	+ 2.1	102	14	41	28	44	2.23	+ 0.01	0.76	0.0	9	16	9	6	se.	J. A. Kemp.
Cando	Towner	1,488	8	69.4	+ 5.2	96	14†	40	12	48	3.21	− 0.61	1.48	0.0	8	17	11	3	n.	G. Bennett.
Crosby	Williams		3	67.6		100	14	44	12	41	1.62		1.10	0.0	6	20	7	4	nw.	H. C. Kaschau.
Devils Lake	Ramsey	1,482	4	68.8	+ 0.7	96	14	47	9	39	1.84	− 1.94	1.05	0.0	8	17	12	2	nw.	U. S. Weather Bureau.
Donnybrook	Ward	1,760	10	68.7	+ 4.2	101	14	44	10†	42	3.11	+ 0.07	1.35	0.0	7	22	7	2	nw.	C. J. De Vore.
Dunseith	Rolette		12	66.4	+ 1.2	104	14	38	28	56	1.43	− 1.03	1.40	0.0	2	29	0	2	w.	L. H. Trowbridge.
Edmore	Ramsey	1,524	4	68.1		97	14	40	9†	47	1.82		1.22	0.0	3	18	13	0	w.	H. R. Aslakson.
Forman	Sargent	1,249	15			101	1				1.90	− 0.75	1.55	0.0	2	21	7	3	sw.	A. Maltby.
Grafton	Walsh	827	12	73.6	+ 6.5	94	20	53	21†	35	T.	− 1.99	T.	0.0	0	27	2	2		H. La Moure.
Granville	McHenry	1,504	3	69.0		104	14	42	13	48	1.97		0.91	0.0	8	13	17	1	nw.	W. A. Christiansen.
Hannah	Cavalier	1,568	4	64.3[c]		94[c]	20	37[c]	9†	50[c]	1.81		1.41	0.0	2				nw.	J. Moffatt.
Hansboro	Towner		2	67.4		101	14	42	10†	43	1.26		0.80	0.0	4	25	4	2	nw.	Geo. Dale.
Hillsboro	Traill	901	4	71.8		97	15	46	18	41	1.86		1.20	0.0	6	16	12	3	nw.	M. H. Norman.
Lakota	Nelson	1,519	3	67.1		94	14	40	28	47	2.12		1.23	0.0	5	13	17	1	nw.	C. R. Pettes.
Langdon	Cavalier	1,615	14	66.4		98	14	42	12	41	1.39		0.63	0.0	6	22	0	9	sw.	J. Woolner.
Larimore	Grand Forks	1,134	14	69.5	+ 3.4	94	14†	47	18	41	1.37	− 1.84	0.73	0.0	3	19	5	7	w.	Reuben Gray.
Lisbon	Ransom	1,091	5	71.2		100	25	43	10	53	2.85		2.12	0.0	7	22	5	4	nw.	H. K. Adams.
McKinney	Ward	1,640	15	67.6	+ 1.8	106[a]	14	37[a]	12	49[a]	1.95	− 0.22	1.05	0.0	5				nw.	N. P. Swenson.
Manfred	Wells	1,605	8	68.6		100	14	44	30	45	2.09		0.78	0.0	5	18	12	1	nw.	P. B. Anderson.
Mayville	Traill	975	14	77.9	+10.0	95	15	54	11	26	1.50	− 2.02	0.82	0.0	2	28	1	2	nw.	N. C. McDonald.
Minot	Ward	1,557	11	70.2	+ 1.6	104	14	45	28	39	2.28	+ 0.53	0.65	0.0	11	26	2	3	nw.	Wm. J. Farris.
Minto	Walsh	820	16	69.9	+ 2.9	98	14	43	12	45	1.05	− 1.82	0.55	0.0	5	20	7	4	nw.	S. S. Marsh.
Oriska	Barnes	1,270	4	70.0		99	15	46	18	43	0.70		0.34	0.0	5	5	25	1	nw.	W. E. Williams.
Park River	Walsh	998	6																	A. Heyward.
Pembina	Pembina	789	11	66.4	+ 0.3	94	6†	44	30	42	1.05	− 1.84	0.65	0.0	5	22	3	6	w.	C. W. Shumaker.
Power	Richland	1,020	17	71.3	+ 2.6	95	15	41	10	47	0.94	− 2.56	0.40	0.0	3	20	6	5	se.	J. A. Power.
Pratt	McHenry		5	68.6		99	14	41	25†	49	1.63		1.00	0.0	5	25	3	3	nw.	C. H. Butts.
Towner	McHenry																			Belle Bagley.
University	Grand Forks	830	18	69.1	+ 2.1	96	15	43	10†	45	0.64	− 1.85	0.54	0.0	3	9	11	11	nw.	W. R. Holgate.
Wahpeton	Richland	962	18																	E. G. Burch.
Walhalla	Pembina	966	5	69.6[i]		100[i]	14	45[i]	11†	41[i]	0.94		0.63	0.0	3					C. H. Lee.
Westhope	Bottineau		3	66.4		106	14	30	11	61	2.51		1.80	0.0	2	19	0	12	se.	C. W. Clark.
Willow City	...do	1,471	16	67.5	+ 2.0	101	14	40	12†	48	1.27	− 1.00	0.90	0.0	3	10	20	1	nw.	M. A. Ostby.
Minnesota.																				
Albert Lea	Freeborn	1,229	20	73.6	+ 2.3	99	16	50	13	36	1.40	− 2.37	1.00	0.0	2	24	6	1	se.	Edward Carey.
Alexandria	Douglas	1,391	16	70.5	+ 1.1	92	25	49	4	38	3.78	+ 0.54	1.92	0.0	6	22	4	5	nw.	P. O. Unumb.
Angus	Polk	870	8	68.2		94	15	42	10†	46	1.54		0.78	0.0	5	10	16	5	nw.	John Nadvornik.
Bagley	Clearwater		4	67.4		94	15	39	18	48	1.94		0.76	0.0	5	13	17	1	sw.	Jens Nelson.
Baudette	Beltrami	1,084	1	68.6		94	15	42	12	38	1.37		0.82	0.0	6	14	8	9	nw.	Franz W. Schmidt.
Beardsley	Bigstone	1,090	17	72.2	+ 2.9	100	16	43	10	50	0.57	− 2.89	0.23	0.0	4	15	13	3	se.	Roy A. Smith.
Beaulieu	Mahnomen	1,200	8																	Elizabeth S. Cooper.
Bird Island	Renville	1,039	20	71.6	+ 0.7	97	15	47	4	43	1.69	− 1.48	0.56	0.0	7	23	5	3	sw.	Dr. F. L. Puffer.
Caledonia	Houston	1,179	17	74.0	+ 3.1	94	1†	54	13†	21	1.59	− 2.42	1.15	0.0	3	24	2	5	sw.	W. D. Belden.
Campbell	Wilkin	984		69.2		97	25	41	10†	50	0.65		0.43	0.0	4	21	0	10	se.	J. T. Neisess.
Cass Lake	Cass	1,300	4								2.50		1.65	0.0	2					C. W. Burns.
Collegeville	Stearns	1,282	17	73.4	+ 2.3	94	20	48	4	33	0.77	− 2.71	0.32	0.0	8	22	6	3	nw.	Fridolin Tembreul.
Crookston	Polk	863	20	70.8	+ 2.5	94	15	50	10†	36	1.18	− 2.34	0.57	0.0	6	27	2	2	s.	A. G. Anderson.
Detroit	Becker	1,364	14	69.2	+ 2.0	97	15	43	10	45	1.83	− 2.51	0.75	0.0	7	23	8	0	sw.	George W. Peoples.
Fairmont (near)	Martin	1,240	23	72.1	+ 0.9	94	16	53	4†	27	1.64	− 1.79	0.92	0.0	5	19	11	1	s.	W. F. Wherland.
Faribault	Rice	1,003	13	71.8	+ 1.5	95	25	50	13†	41	2.27	− 1.87	0.94	0.0	6	21	9	1	sw.	Dr. A. R. T. Wylie.
Farmington	Dakota	902	22	73.8	+ 3.3	98	15	51	4	36	2.65	− 0.69	0.85	0.0	6	20	6	5	nw.	D. F. Akin.
Fergus Falls	Ottertail	1,210	18	72.0	+ 2.3	94	25	49	10	37	1.89	− 1.97	1.10	0.0	7	20	11	0	nw.	Chas. E. Kissenger.
Fort Ripley	Crow Wing	1,136	4	69.2		95	21	41	4	46	1.86	− 0.72	0.98	0.0	4	19	6	6	s.	J. J. Tucker.
Fosston	Polk	1,289	1	68.8		95	15	45	12†	37	1.72		0.67	0.0	5	17	11	3	sw.	O. N. Hem.
Fram	Marshall			66.4		95	15	40	20	52	0.91		0.87	0.0	2	20	7	4	sw.	A. W. Clark.
Glencoe	McLeod	1,000	14	72.6	+ 3.2	97	16	48	4	40	1.00	− 2.05	0.45	0.0	4	23	8	0	sw.	C. G. Selvig.
Grand Meadow	Mower	1,338	23	74.2	+ 2.9	102	16	50	13	39	0.76	− 3.01	0.52	0.0	3	23	6	2	sw.	C. F. Greening.
Hallock	Kittson	815	11	68.2	+ 1.7	96	14	42	12	44	0.80	− 2.32	0.37	0.0	6	21	8	2	n.	D. A. Robertson.
Halstad	Norman	870	4	70.5		99	15	42	10	44	1.57		1.12	0.0	7	22	7	2	sw.	Aaron G. Holstrom.
Hinckley	Pine	1,050	5	69.8		96	15	44	4†	43	1.19		0.27	0.0	5	11	15	4	s.	W. R. Newman.
International Falls	Koochiching	1,112	2	67.4		96	1	42	12	38	2.12		0.87	0.0	6	20	7	4	sw.	Rees Roe.
Kelliher	Beltrami		3	67.4		93	1†	40	21	45	2.15		1.07	0.0	6	13	18	0	nw.	A. Gilmour.
Lake Crystal	Blue Earth		3	72.0		94	16	51	13	35	1.78		1.05	0.0	6	26	3	2	nw.	W. P. Cobb.
Leech Lake Dam	Cass	1,301	22	66.4	− 0.5	93[a]	1†	40	4†	41[a]	4.03	− 0.25	2.33	0.0	5	8	22	1	w.	Hans Olson.
Little Fork	Koochiching			65.9		96	15	38	12	44	2.24		0.85	0.0	6	18	11	2		O. C. Olson.
Long Prairie	Todd	1,299	18																	R. M. Sheets.
Lynd (2)	Lyon	1,175	18	69.2	− 0.8	93	16	45	19	38	1.76	− 1.24	0.42	0.0	6	22	6	3	sw.	J. W. Rouse.
Mankato	Blue Earth	747	11								1.60	− 1.57	0.77	0.0	6				ne.	Sadie H. Blake.
Mapleplain	Hennepin	1,023	18																	G. W. Richards.
Milaca	Millelacs	1,072	13																	C. H. Foss.
Milan	Chippewa	955	16	70.4	+ 0.4	95	16	45	4	42	1.58	− 1.58	0.75	0.0	5	5	25	1	se.	O. K. Opjorden.
Minneapolis	Hennepin	918	19	73.9	+ 1.9	94	15	52	12	29	0.74	− 3.07	0.34	0.0	6	17	7	7	w.	U. S. Weather Bureau.
Montevideo	Chippewa	900	20	72.8	+ 2.1	98	16†	48	12	47	2.29	− 0.47	0.96	0.0	8	14	14	3	se.	Lloyd G. Moyer.
Moorhead	Clay	935	29	71.4	+ 2.7	98	15	48	12	44	0.83	− 2.91	0.44	0.0	6	24	5	2	nw.	U. S. Weather Bureau.
Mora	Kanabec		5	67.4		95	15	37	18	50	2.61		1.02	0.0	5	22	7	2	w.	Hans Peterson.
Morris	Stevens	1,170	25	71.7	+ 1.5	97	16	48	12	39	1.22	− 2.70	0.52	0.0	6	26	3	2	s.	D. T. Wheaton.
New London	Kandiyohi	1,215	16	70.2	+ 0.5	95	16†	47	12	39	1.21	− 2.25	0.48	0.0	6	25	5	1	s.	Harold Swenson.
New Richland	Waseca	1,180	16	73.8	+ 2.1	97	16	52	10†	34	1.46		0.61	0.0	5	20	9	2	sw.	N. O. Tyrholm.
New Ulm	Brown	791	30	74.6	+ 0.5	101	16	53	12†	41	1.53	− 2.08	0.67	0.0	6	23	1	7	s.	Andrew J. Eckstein.
Osakis	Douglas	1,343	3	69.5		92	20	47	4†	39	2.65		1.20	0.0	6	24	4	3	nw.	J. B. Johnson.
Park Rapids	Hubbard	1,426	20	70.0	+ 2.7	95	1†	48	4†	41	1.59	− 2.36	0.90	0.0	5	19	5	7	nw.	Dr. P. A. Walling.
Pine River Dam	Crow Wing	1,251	23	70.7	+ 2.2	96	15	40	18	44	3.68	+ 0.14	2.10	0.0	6	18	12	1	nw.	Neil McKay.
Pokegama Falls	Itasca	1,280	23	66.3	+ 0.5	93	15†	37	28	41	5.76	+ 1.83	3.18	0.0	9	10	20	1	nw.	Arthur L. Mampel.
Red Lake	Beltrami	1,152	2	68.2		94	1	45	17	36	3.18		1.55	0.0	8	9	20	2	w.	A. C. Goddard.
Red Wing	Goodhue	680	14								1.90		0.48	0.0	7	20	6	5	nw.	Louis Bach.
Redwood Falls	Redwood	1,050	3	73.3		98	16	49	12	41	1.48	− 1.66	0.41	0.0	5	27	2	2	nw.	N. B. Anderson.
Reeds Landing	Wabasha	681	15								1.84	− 1.77	0.74	0.0	7	23	4	4	se.	John Deschneau.
Rochester	Olmsted	991	6	72.4		97	1†	46	13	42	0.84		0.27	0.0	4	21	1	8	s.	S. R. Case.
Roseau	Roseau	1,040	3	67.8		95	14†	42	12	44	1.16		0.43	0.0	5	27	4	0	nw.	A. Waag.
St. Charles	Winona	850	19	73.0	+ 2.7	98	1†	49	13	40	1.32	− 2.04	0.75	0.0	7	24	4	3	se.	S. W. Gleason.
St. Cloud	Sherburne	1,020	32	73.0	+ 2.1	95	20	46	4†	38	0.63	− 3.08	0.34	0.0	3	21	5	5	sw.	Jos. H. Capser.
St. Paul	Ramsey	837	39	74.2	+ 2.1	95	25	54	12	33	0.99	− 2.41	0.33	0.0	6	22	8	1	sw.	U. S. Weather Bureau.
St. Peter	Nicollet	825	17	68.6	+ 3.0	97	23	34	12	47	1.06	− 2.80	0.75	0.0	2	20	8	3	sw.	Chas. C. Cavanaugh.
Sandy Lake Dam	Airkin	1,234	17	67.6	+ 0.5	92	14	40	17	37	4.01	+ 0.08	2.15	0.0	10	17	10	4	sw.	U. S. Engineer Corps.
State Sanatorium	Cass		3	69.9		95	15	47	18	34	2.54		1.15	0.0	4	27	2	2	sw.	Walter J. Marclacy.
Stillwater	Washington	694	5								1.18		0.42	0.0	6	23	2	6	sw.	Oscar Ostrom.

TABLE 1.—*Climatological data for July, 1910. District No. 5*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Minnesota—Cont'd.																				
Taylors Falls	Chisago	759	3	73.0	.....	95	15	50	18†	36	2.39	.....	0.89	0.0	5	18	9	4	s.	Mpls. Gen. Elec. Co.
Warroad	Roseau	1,069	1	66.2	.....	92	15	41	12	40	1.37	.....	0.68	0.0	5	27	2	2	w.	John H. Sawyer.
West Concord	Dodge	1,232	1	73.6	.....	99	25	51	13†	40	0.92	.....	0.67	0.0	3	16	13	2	sw.	H. H. Orcutt.
Willow River	Pine	1,046	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. A. Brandt.
Windom	Cottonwood	1,336	4	72.7	.....	96	16	49	12	40	1.34	.....	0.76	0.0	4	12	17	2	n.	Taber C. Richmond.
Winnebago	Faribault	1,100	11	72.8	+ 0.8	97	16	52	13†	36	1.93	− 2.76	1.20	0.0	4	23	5	3	nw.	H. H. Haight.
Winnibigoshish	Itasca	1,300	22	70.0	+ 3.0	93	1†	49	4†	35	3.39	− 0.68	2.03	0.0	8	21	9	1	w.	John Duncan.
Winona	Winona	700	15	76.9	+ 4.4	101	1	51	13	39	0.62	− 2.40	0.26	0.0	5	22	6	3	nw.	Perry C. Meyrs.
Worthington	Nobles	979	15	73.0	+ 3.4	96	16†	48	4	38	1.89	− 2.40	0.78	0.0	7	18	4	9	sw.	Milton P. Mann.
Zumbrota	Goodhue	917	15	73.6	+ 2.6	97	16†	47	31	42	1.14	.....	0.76	0.0	3	25	5	1	nw.	W. C. Rowell.
South Dakota.																				
Milbank	Grant	1,148	18	70.4	+ 0.4	98	16	45	12	42	1.91	− 0.74	0.84	0.0	7	19	4	8	nw.	I. T. Patridge.
Wisconsin.																				
Antigo	Langlade	1,489	16	70.2[d]	+ 2.6	97	1	42[a]	18	40	2.43	.....	1.01	0.0	6	20	10	1	w.	Elton C. Larzelere.
Barron	Barron	1,115	18	69.1	+ 0.9	94	1†	42	4	43	2.21	− 1.67	0.68	0.0	5	25	6	0	w.	Wm. A. Kent.
Beloit	Rock	750	23	75.4	+ 2.5	96	1†	52	19	43	1.22	− 2.43	0.81	0.0	5	17	6	8	sw.	Smith Observatory.
Big St. Germain Dam‖	Vilas	1,590	1	66.0	.....	95	1†	41	31	44	2.39	.....	1.10	0.0	7	21	7	3	nw.	Oscar Brehmer.
Brodhead	Green	812	12	76.1	+ 3.3	101	1	48	19	39	1.72	− 2.96	0.95	0.0	6	20	11	0	sw.	Hecktore D. Kirkpatrick.
Burnett	Dodge	880	6	72.8	.....	100	1	41	19	41	1.76	.....	0.82	0.0	4	20	11	0	sw.	Geo. W. Smith.
Darlington	Lafayette	867	5	74.2	.....	100	1	43	19	43	0.80	.....	0.50	0.0	2	26	1	4	nw.	S. P. Nelson.
Deerskin Dam‖	Forest	1,625	1	.....	.....	.....	.....	.....	.....	.....	2.24	.....	0.93	0.0	7	18	10	3	sw.	Wm. E. O'Neal.
Delavan	Walworth	920	17	73.8	+ 1.9	98	1†	45	19	41	0.92	− 3.34	0.29	0.0	8	22	8	1	sw.	Elwood S. Austin.
Dodgeville	Iowa	1,116	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Geo. W. Butler
Downing	Dunn	983	8	69.6	.....	98	1	40	4	45	3.09	.....	1.47	0.0	6	11	5	15	sw.	Eugene F. Stoddard.
Eau Claire	Eau Claire	800	19	73.7	+ 3.0	98	1	50	4	38	2.47	− 1.00	0.98	0.0	6	23	4	2	nw.	Robert D. Whitford
Grand Rapids	Wood	1,021	11	72.4	+ 3.1	99	1	45	18	41	1.76	− 1.11	0.95	0.0	5	22	8	1	sw.	Willis B. Raymond.
Grantsburg	Burnett	1,095	19	70.7	+ 1.6	98	15	40	17	41	4.05	− 0.35	1.90	0.0	7	20	6	5	sw.	Theodore Olsen.
Hancock	Waushara	1,091	18	74.4	+ 3.5	101	1	49	18	38	1.20	− 2.75	0.98	0.0	4	22	9	0	sw.	Frederick B. Hamilton.
Hatfield	Jackson	973	15	71.7	+ 4.8	98	1	42	4	46	2.03	− 1.53	1.75	0.0	4	21	8	2	w.	Walter S. Woods.
Hayward	Sawyer	1,197	19	69.3	+ 2.3	96[a]	15	41[a]	18	44[a]	3.12	− 0.63	1.60	0.0	7	14[a]	12[a]	4[a]	w.	William E. Swain.
Hillsboro	Vernon	1,000	19	70.0	+ 0.7	97	2	42	13	44	1.65	− 1.84	1.00	0.0	3	21	10	0	sw.	Emil V. Wernick.
Koepenick	Langlade	1,683	20	66.0	− 1.4	96	1	35	18	45	2.26	− 1.58	0.80	0.0	6	26	0	5	sw.	Edward S. Koepenick.
Lac du Flambeau‖	Vilas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. J. Lovett.
La Crosse	La Crosse	714	38	74.5	+ 1.9	98	16	52	13	36	1.03	− 3.04	0.43	0.0	7	18	9	4	s.	U. S. Weather Bureau.
Lake Mills	Jefferson	897	19	74.7	+ 3.5	99	1	48	18†	38	1.40	− 2.69	1.06	0.0	5	15	16	0	sw.	S. Newton Dexter Smith.
Lancaster	Grant	1,070	20	74.4	+ 2.7	98	1	50	19	35	0.71	− 3.40	0.41	0.0	5	24	6	1	sw.	Edward Pollock.
Long Lake	Oneida	1,592	2	65.2	.....	96	1	30	18	53	1.74	.....	0.70	0.0	7	19	9	3	sw.	Louie Frank.
Madison	Dane	974	32	74.2	+ 1.8	97	1	54	18	29	0.81	− 3.18	0.28	0.0	5	12	14	5	sw.	U. S. Weather Bureau.
Mather	Juneau	962	6	68.6	.....	100	1	38	31	48	1.15	.....	0.48	0.0	5	21	4	6	e.	Frank Evans.
Mauston	....do	882	14	72.3	+ 2.1	97	16	45	18	38	1.71	− 2.58	1.20	0.0	3	25	4	2	nw.	Eugene L. Hitchcock.
Meadow Valley	....do	974	19	71.2	+ 1.9	102	1	39	13	51	1.37	− 2.61	0.61	0.0	6	10	20	1	nw.	Charles H. Johnson.
Medford	Taylor	1,420	19	69.3	+ 0.5	96	15	41	18	42	2.51	− 1.58	1.18	0.0	5	26	4	1	w.	William Zeit.
Merrill	Lincoln	1,267	4	71.0	.....	98	1	44	5†	44	1.65	.....	0.67	0.0	6	28	3	0	w.	Frank M. McElroy.
Minocqua	Vilas	1,604	6	67.6	.....	95	1†	37	18	44	2.52	.....	1.28	0.0	8	16	14	1	w.	Benjamin W. Applebee.
Mondovi	Buffalo	738	2	72.4	.....	100	1	46	13	43	1.99	.....	0.65	0.0	6	19	8	4	nw.	Dr. Charles Hebard.
Mount Horeb	Dane	1,226	6	74.2	.....	99	1	50	18†	37	0.91	.....	0.65	0.0	3	17	12	2	w.	W. M. Lewis.
Muscoda	Grant	666	1	75.4	.....	104	15	48	13	42	1.04	.....	0.60	0.0	3	18	10	3	sw.	Henry Eckstein.
Neillsville	Clark	996	21	71.8	+ 2.0	100	1	44	13	46	2.76	− 1.03	1.52	0.0	5	20	1	10	nw.	William Heaslett.
New Richmond	St. Croix	990	5	72.8	.....	96	20	46	4	40	3.88	.....	1.02	0.0	7	19	9	3	nw.	Frank A. R. Van Meter.
Osceola	Polk	806	19	72.4	+ 3.3	100[a]	15	46	4†	41	1.77	− 2.35	0.75	0.0	6	21	7	3	s.	Charles W. Staples.
Park Falls‖	Price	1,492	18	67.4	+ 1.2	95	1	36	18	47	2.79	− 2.88	1.09	0.0	6	20	8	3	sw.	Flambeau Paper Co.
Portage	Columbia	809	14	75.4	+ 4.0	100	1	48	19	39	1.04	− 2.31	0.87	0.0	4	27	3	1	sw.	James Clear.
Prairie du Chien	Crawford	690	23	75.2	+ 1.4	101	16	49	13†	45	0.52	− 3.11	0.26	0.0	5	21	5	5	nw.	Jas. A. Gillis.
Prentice	Price	1,551	12	64.6	− 1.0	95	1	32	18	54	3.29	− 0.80	1.60	0.0	7	19	5	7	sw.	Joseph G. Lash.
Rhinelander	Oneida	1,550	4	69.2	.....	96	1	39	18	41	1.44	.....	0.60	0.0	9	11	14	6	nw.	John Lind.
Sauk City	Sauk	758	2	75.8	.....	102	1	48	19	44	2.37	.....	0.85	0.0	4	19[f]	6[f]	0[f]	.....	Kilien Derleth.
Shullsburg	Lafayette	1,019	4	73.5	.....	95	1	47	19	34	1.16	.....	1.03	0.0	2	16	11	4	w.	Harrison B. Chamberlin.
Solon Springs	Douglas	1,083	4	67.8	.....	94	15	38	18	44	4.20	.....	1.70	0.0	7	18	8	5	sw.	John M. Sayles.
Spooner	Washburn	1,104	15	70.0	+ 0.8	94	15	45	4	39	1.02	− 2.95	0.29	0.0	8	24	5	2	e.	Horace A. Bresee.
Stanley	Chippewa	1,082	6	69.9	.....	98	1	42	13	46	2.71	.....	1.41	0.0	7	24	6	1	nw.	W. Humphrey Scott.
Stevens Point	Portage	1,113	17	71.4[f]	+ 1.8	100[f]	1	42[f]	19	45[f]	0.94	− 2.46	0.66	0.0	5	7[b]	11[b]	11[b]	sw.	Garry E. Culver.
Sugar Camp Dam‖	Oneida	1,582	1	.....	.....	.....	.....	.....	.....	.....	2.49	.....	1.08	0.0	6	.....	.....	.....	w.	Robert Hayes.
Twin Lakes Dam‖	Vilas	1,625	1	.....	.....	.....	.....	.....	.....	.....	2.18	.....	1.14	0.0	5	12	17	2	sw.	Albert D. Hansen.
Valley Junction	Monroe	930	18	72.2	+ 2.8	101	1	42	31	44	1.60	− 2.46	0.84	0.0	3	23	6	2	nw.	Frederick Muermann.
Viroqua	Vernon	1,412	19	75.6	+ 6.6	100	16	51	18†	35	1.98	− 2.14	1.51	0.0	3	15	13	3	sw.	Henry E. Rogers.
Vudesare	Vilas	1,600	2	70.4	.....	96	1	33	18	41	1.34	.....	0.40	0.0	6	19	11	1	w.	Louis L. Thomas.
Watertown	Jefferson	824	19	73.4	+ 3.0	95	1	46	19	35	1.24	− 2.47	0.64	0.0	5	18	12	1	sw.	Charles J. Salick.
Waukesha	Waukesha	864	14	73.8	+ 2.6	96	1†	46	19	36	1.44	− 1.96	1.35	0.0	4	19	12	0	sw.	Carroll College.
Wausau	Marathon	1,212	17	71.7	+ 3.4	98	1	46	18	39	1.92	− 2.27	1.10	0.0	4	23	7	1	w.	George H. Halder.
Weyerhaeuser	Rusk	1,297	3	67.9	.....	93	1	40	19	45	3.83	.....	1.60	0.0	7	18	13	0	sw.	Miss Etta Stiles.
Whitehall	Trempealeau	675	18	71.6	+ 1.4	101	1	43	13	44	0.90	− 2.55	0.90	0.0	1	26	0	5	nw.	Hans J. Haugh.
Iowa.																				
Albia‖	Monroe	950	12	75.0	+ 0.8	99	25	51	13	37	1.57	− 3.36	1.22	0.0	5	18	9	4	sw.	J. I. Chenoweth.
Algona‖	Kossuth	1,213	36	74.0	+ 0.6	96	16	50	13	33	0.77	− 2.33	0.38	0.0	4	26	3	2	sw.	Dr. F. T. Seeley.
Alta	Buena Vista	1,513	19	72.2	+ 0.3	91	16	52	13	34	2.58	− 2.10	0.95	0.0	10	17	13	1	sw.	David E. Hadden.
Amana	Iowa	721	34	76.0	+ 2.3	99	16	48	19	38	1.08	− 3.17	0.69	0.0	5	15	11	5	sw.	C. Schadt.
Ames	Story	926	34	73.6	− 0.7	96	1†	49[b]	13	39[c]	1.69	− 2.75	0.65	0.0	5	16	11	4	s.	Iowa State College.
Baxter‖	Jasper	998	10	74.1	+ 0.9	99	1	40	13	38	2.07	− 2.97	1.44	0.0	5	16	11	4	se.	W. R. Vandike.
Belleplaine	Benton	828	20	75.1	+ 2.3	99	16	48	13	39	0.86	− 3.55	0.55	0.0	4	19	9	3	s.	S. P. Van Dike.
Belmond	Wright	.....	.....	72.3	.....	95	16	50	13	34	3.13	.....	1.10	0.0	7	5	24	2	nw.	Geo. P. Hardwick.
Bloomfield‖	Davis	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. R. Davis.
Bonaparte‖	Van Buren	.....	19	75.4	− 0.1	100	24	52	19	38	2.89	− 0.84	1.33	0.0	5	.....	.....	.....	.....	B. R. Vale.
Boone	Boone	1,134	5	74.8	.....	97	1	54	13	33	1.86	.....	0.75	0.0	7	20	5	6	.....	Carl Fritz Henning.
Britt‖	Hancock	1,236	13	71.4	− 0.4	94	16	49	13	35	1.60	− 2.83	0.58	0.0	6	23	8	0	s.	L. M. Goodman.
Buckingham	Tama	.....	10	.....	.....	.....	.....	.....	.....	.....	0.76	− 3.91	0.41	.....	3	.....	.....	.....	.....	J. S. Gwynn.
Burlington	Des Moines	544	14	76.4	+ 1.0	101	24	55	13†	31	4.15	+ 0.53	2.07	0.0	7	21	5	5	sw.	Max E. Poppe, jr.
Carroll	Carroll	1,265	20	72.5	− 0.5	93	7†	48	12	36	1.14	− 2.87	0.60	0.0	4	16	10	5	nw.	Mrs. Jos. J. Wolfe.
Cedar Rapids	Linn	733	28	76.8	+ 2.1	100	1†	53	19	35	0.44	− 3.60	0.19	0.0	3	18	5	8	sw.	W. J. Greene.
Charles City	Floyd	1,015	19	73.2	− 0.3	98	16	48	13	36	0.43	− 3.15	0.14	0.0	6	10	15	6	nw.	U. S. Weather Bureau.
Clear Lake‖	Cerro Gordo	1,241	12	74.6	+ 1.4	96	16	52	18	33	1.22	− 3.52	0.80	0.0	3	29	0	2	s.	Oscar Stevens
Clinton	Clinton	593	43	76.9	+ 3.1	101	1	47	19	38	1.68	− 2.52	0.43	0.0	6	12	12	7	.....	Luke Roberts.
Columbus Junction‖	Louisa	595	9	75.8	+ 0.2	96	24	53	19	33	3.05	− 0.96	1.02	0.0	7	22	7	2	se.	J. B. Johnston.
Davenport	Scott	580	39	77.0	+ 1.6	97	24	56	18	29	2.86	− 0.69	2.01	0.0	5	19	7	5	sw.	U. S. Weather Bureau.
Decorah	Winneshiek	875	17	76.6	+ 4.6	105	15	48	11†	45	0.73	− 2.99	0.45	0.0	3	.....	.....	.....	.....	F. H. Baker.
Delaware	Delaware	1,083	19	76.0	+ 4.1	98	16	52	18†	36	0.65	− 3.50	0.41	0.0	4	20	10	1	se.	William Ball.
Des Moines	Polk	861	32	75.6	+ 0.1	97	16	54	13	35	0.86	− 3.00	0.56	0.0	5	9	11	11	s.	U. S. Weather Bureau.
De Soto‖	Dallas	866	10	75.0	+ 2.3	100	16	46	13	41	0.63	− 5.20	0.30	0.0	5	23	4	4	sw.	R. D. Minard.

TABLE 1.—*Climatological data for July, 1910. District No. 5*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days. .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Iowa—Cont'd.																				
Dubuque	Dubuque	639	37	76.0	+ 1.3	98	1	54	19	30	0.47	− 3.83	0.23	0.0	5	14	13	4	nw.	U. S. Weather Bureau.
Earlham	Madison		8	74.2	+ 4.2	97	16†	46	13	45	1.11	− 3.73	0.47	0.0	6	19	7	5	sw.	George Phillips.
Elkader	Clayton	727	31	75.0	+ 1.4	103	16	45	19	46	0.41	− 4.27	0.27	0.0	3	19	11	1	ne.	Chas. Reinecke.
Elma	Howard		1	74.6		99	16	51	13	37	0.33		0.12	0.0	5	24	6	1	se.	H. A. Moore.
Estherville	Emmet	1,298	15	71.4	+ 0.3	93	16†	50	13†	37	2.00	− 2.58	0.53	0.0	7	18	0	13	sw.	A. O. Peterson.
Fairfield	Jefferson		26	76.1	+ 1.4	100a	24	49	19	39a	3.08	− 0.91	1.53	0.0	7	21	6	4	w.	R. Monroe McKenzie.
Fayette‖	Fayette	1,003	20	74.4	+ 1.3	101	16	46	13	43	1.04	− 3.05	0.50	0.0	4	28	3	0	sw.	R. Z. Latimer.
Forest City‖	Winnebago	1,226	16	72.4	+ 0.4	96	16	51	13†	36	1.80	− 1.88	0.85	0.0	6	23	7	1	w.	J. A. Peters.
Fort Dodge	Webster	1,126	10	73.9	+ 1.4	97	1	50	13	37	2.82	− 2.21	1.25	0.0	9	24	0	7	n.	J. F. Monk.
Fort Madison	Lee	516	61								2.72	− 1.24	1.27	0.0	5	9	13	9	s.	Miss L. A. McCready.
Gilman	Marshall	1,052	11								0.95	− 3.64	0.72	0.0	3					J. L. Wylie.
Grand Meadow	Clayton	1,180	19	72.2	+ 1.7	92	16	50	18	30	0.76	− 3.98	0.19	0.0	4	11	16	4	sw.	F. L. Williams.
Greene	Butler		12	76.6	+ 3.3	106	16	49	13	45	0.68	− 4.02	0.20	0.0	6	11	16	4	w.	J. L. Cole.
Grinnell	Poweshiek	1,023	18	75.7	+ 2.5	100	24	52	13†	40	1.92	− 3.03	0.85	0.0	4	18	11	2	nw.	D. W. Brainard
Grundy Center‖	Grundy	976	19	73.8	+ 1.6	98	16	47	13†	42	0.92	− 3.63	0.52	0.0	3	22	0	9	sw.	J. B. Calderwood.
Guthrie Center‖	Guthrie	1,077	15	74.6	+ 1.2	96	25	46	13	43	0.85	− 3.97	0.28	0.0	9	18	9	4	se.	D. G. Beardsley.
Hampton	Franklin	1,155	20	75.0	+ 2.6	98	15	54	11†	35	0.95	− 3.88	0.24	0.0	7	13	13	5	nw.	E. C. Grenelle.
Humboldt	Humboldt	1,095	22	72.5	− 0.4	95	16	48	13	37	1.82	− 2.12	0.68	0.0	7	30	0	1	sw.	Henry S. Wells.
Independence‖	Buchanan	921	46	74.4	+ 1.5	98	16	49	19	39	0.51	− 4.08	0.27	0.0	5	24	3	4	sw.	George Donohoe.
Indianola	Warren	969	19	76.2	+ 1.5	98	25	54	13†	34	0.70	− 3.56	0.55	0.0	5	12	11	8	ne.	John L. Tilton.
Iowa City	Johnson	683	50	74.8	+ 0.6	98a	1†	48	19	40a	2.22	− 2.26	1.20	0.0	7	21	4	6	se.	A. G. Smith.
Iowa Falls	Hardin	1,170	17	71.6	− 0.4	95	1†	46	13	40	2.19	− 1.91	1.33	0.0	5	26	2	3	sw.	J. B. Parmelee.
Jefferson‖	Greene		11																	G. W. Jackson.
Keokuk	Lee	547	39	76.4	− 0.6	99	24	57	19	30	2.74	− 1.29	1.22	0.0	9	16	11	4	sw.	U. S. Weather Bureau.
Keosauqua	Van Buren	644	18	75.6	− 0.3	101	24	48	19	39	5.69	+ 1.56	3.52	0.0	7	9	16	6		J. H. Landes.
Knoxville‖	Marion	920	15	76.3	+ 0.8	97	24†	52	19	37	1.62	− 2.84	1.00	0.0	4	16	11	4	nw.	Casey & Belville.
Lacona	Warren		11								0.96	− 3.52	0.68	0.0	7					J. B. Alter.
Le Claire	Scott	576	10								1.86	− 2.76	1.14	0.0	4					Miss M. T. Disney.
Marshalltown	Marshall	947	18	73.9	+ 0.7	98	16†	48	13	41	1.05	− 3.66	0.71	0.0	5	20	5	6	nw.	Ralph B. Reasoner.
Mason City‖	Cerro Gordo	1,132	13	72.0	− 0.5	95	16	46	13	37	0.71	− 3.35	0.36	0.0	4	21	9	1	sw.	J. S. Mills.
Mount Pleasant‖	Henry	729	29	76.0	+ 0.4	101	1	48	19	40	3.49	− 0.34	1.50	0.0	8	13	11	7	sw.	J. W. Edwards.
Muscatine	Muscatine		50								3.04	− 0.87	1.43	0.0	7					William Molis
New Hampton‖	Chickasaw	1,169	13	75.4	+ 4.0	99	16	49	13	40	0.12	− 4.07	0.09	0.0	2	22	5	4	w.	A. F. Kemman.
Newton‖	Jasper	944	22	76.0	+ 1.6	95	16†	55	13	32	1.83	− 2.55	0.78	0.0	4	15	10	6	s.	J. P. Beatty.
Northwood‖	Worth	1,222	14	73.0f	+ 1.8	95f	16	52f	19	34f	1.78	− 2.14	0.83	0.0	4	25	4	2		Chas. H. Dwelle.
Olin‖	Jones	760	12	76.0	+ 2.8	101	25	45	19	45	0.63	− 3.34	0.26	0.0	8	20	10	1		C. M. Miles.
Osage	Mitchell	1,184	23	75.8	+ 5.3	102	16	48	13	39	0.56	− 3.16	0.33	0.0	2	27	2	2	nw.	A. D. Bundy.
Oskaloosa‖	Mahaska	843	34	75.0	+ 0.6	99	25	48	13	43	3.00	− 0.97	1.56	0.0	4	19	4	8	sw.	Joseph Boyd.
Ottumwa	Wapello	649	15	78.5	+ 2.5	103	24	53	13†	40	3.21	− 0.92	2.47	0.0	5	6	6	19	se.	W. J. Mesmer.
Pella	Marion	877	8	74.6	− 1.4	101	24	46	13†	44	1.09	− 3.27	0.52	0.0	6	26	3	2	sw.	John H. Ver Steeg.
Perry‖	Dallas	975	9	74.8	+ 0.2	97	1	50	13	40	1.07	− 3.54	0.64	0.0	7	19	8	4	sw.	Ed. S. Gray.
Plover	Pocahontas	1,426	14	72.1	− 0.5	96	16	47	13	42	2.30	− 2.07	0.70	0.0	6	28	2	1	s.	J. S. Smith.
Pocahontas	do	1,248	6	71.0		93	16	50	18	33	1.87		0.48	0.0	7	23	6	2	sw.	F. E. Hronek.
Ridgeway‖	Winneshiek	1,215	12	76.4	+ 3.0	108	16	50	18	43	0.57	− 4.09	0.39	0.0	5	23	7	1	s.	Arthur Betts.
Rockwell City‖	Calhoun		14	74.0	+ 0.6	96	16	53	14	33	3.30	− 0.22	1.00	0.0	4	29	2	0		C. M. Randall.
Sac City	Sac	1,278	34	73.0	+ 0.3	93a	16	53a	10†	33a	1.07	− 2.96	0.34	0.0	5					E. N. Baily.
St. Charles‖	Madison	1,079	9	76.4	+ 2.3	99	25	55	13	33	0.86	− 4.93	0.55	0.0	5	20	10	1	s.	R. D. Minard.
Sigourney‖	Keokuk	877	14	76.8e	+ 1.0	98e	25	52e	13	37e	2.11	− 2.19	0.70	0.0	6					J. T. Parker.
Stockport‖	Van Buren		8	75.3		101	24	47	13	41	3.20	− 1.39	1.34	0.0	7	22	3	6	sw.	C. L. Beswick.
Storm Lake	Buena Vista	1,440	21	73.4	+ 1.5	90e	26	53f	5†	34f	2.61	− 1.69	0.62	0.0	7					S. B. Fracker.
Stuart	Guthrie	1,216	11																	J. P. Fox.
Tipton ‖	Cedar	807	11	79.2	+ 4.4	101	1	57	13†	34	0.95	− 3.27	0.42	0.0	4	26	5	0	ne.	F. K. Gregg.
Toledo‖	Tama	856	16	73.9	+ 0.3	96	16	46	13	39	1.20	− 2.86	0.65	0.0	4	24	5	2	w.	I. F. Giger.
Wapello‖	Louisa	588	12	74.2	− 1.0	93	24	56	19	23	3.47	+ 0.25	1.37	0.0	4	22	6	3	sw.	G. W. Schofield.
Washington	Washington	769	28	75.2	− 0.3	98	24	53	13†	34	2.24	− 1.38	0.80	0.0	6	13	15	3	sw.	Wm. A. Cook.
Waterloo	Black Hawk	862	27	73.8	+ 0.3	99	16	53	13†	37	0.84	− 3.56	0.45	0.0	7	22	7	2		M. L. Newton.
Waukee	Dallas	1,039	7	74.5		96	1†	50	13	35	0.81		0.32	0.0	7	17	12	2	sw.	Samuel F. Foft.
Waverly‖	Bremer	948	14	73.8	+ 1.4	97	16	50	13	34	0.82	− 3.72	0.23	0.0	5	17	12	2	e.	H. S. Hoover.
Webster City‖	Hamilton		5	74.4		99	16	47	13	44	1.81		0.66	0.0	6	22	8	1	nw.	C. D. Carpenter.
West Bend‖	Palo Alto	1,197	17	72.0	− 0.1	96	16	50	13†	37	1.32	− 2.46	0.49	0.0	6	16	11	4	s.	Joseph Dorweiler.
Whitten‖	Hardin	1,036	13	74.4	+ 1.1	97	1	50	13	38	1.86	− 2.48	0.85	0.0	4	20	8	3	se.	F. P. Butler.
Winterset‖	Madison	1,129	19	76.4	+ 2.4	100	25	51	13	39	0.72	− 4.96	0.35	0.0	6	10	13	8	s.	Robert S. Cooper.
Missouri.																				
Gorin	Scotland	700	24								6.08	+ 1.55	2.90	0.0	5	4	19	8	sw.	J. W. Pulliam.
Hannibal	Marion	534	18	76.1	− 1.3	95	24	56	19	29	9.32	+ 5.57	4.84	0.0	10	12	12	7	sw.	U. S. Weather Bureau.
Louisiana	Pike	500	32	75.8	− 0.1	96	25	50	19	39	10.92	+ 7.39	3.40	0.0	10	21	5	5	w.	J. T. Farrell.
Mexico	Audrain	797	32	76.0	− 1.0	97	25	53	19	32	6.36	+ 2.31	2.46	0.0	11	14	2	15	s.	J. F. Llewellyn.
Steffenville	Lewis	576	17	75.4	− 0.8	95	24†	55	13†	28	12.02	+ 7.28	5.80	0.0	8	15	15	1	e.	Frank Hall.
Sublett	Adair	1,000	30	75.2	− 0.6	95	24	51	13	35	10.85	+ 6.46	2.60	0.0	5	11	14	6	sw.	Lewis Spriggs.
Warrenton	Warren	865	20	76.5	− 0.8	97	25	54	19	30	6.44	+ 2.55	1.42	0.0	13	12	3	16	n.	Dr. J. H. Frick.
Indiana.																				
Collegeville	Jasper		11	73.4	− 0.5	99	1	51	19	37	4.95	+ 0.62	1.85	0.0	7	3	17	11	ne.	Prof. L. C. Klosterman.
Knox	Starke	716	5	74.6		97	1	53	19†	36	3.00		1.58	0.0	5	18	12	1	sw.	W. R. R. Tatman.
Laporte	Laporte	810	14	74.5	+ 0.8	97a	24	49	19	38	0.88	− 2.52	0.45	0.0	4	9h	9h	5h	sw.	Wm. N. Walton, jr.
Plymouth	Marshall	790	7	72.7		95	1	51	19†	36	2.30		1.25	0.0	5	16	13	2	sw.	J. W. Siders.
Illinois.																				
Aledo	Mercer	738	10	74.8	+ 0.8	96	24	51	19	31	2.15	− 1.64	1.15	0.0	7	8	22	1	sw.	Wm. B. Frew.
Alexander	Morgan	670	17	75.8	− 0.3	97	25	55	18†	33	2.56	− 1.34	0.75	0.0	10	9	12	10	sw.	George H. Hall.
Antioch	Lake	861	9	75.4	+ 3.1	99	1	47	19	39	0.83	− 2.75	0.20	0.0	5	14	13	4	sw.	J. C. James, jr.
Astoria	Fulton	650	11	74.2	+ 0.5	98	24	49	19	32	2.65	− 0.96	0.87	0.0	10	14	11	6	s.	Ed. V. Bohl.
Aurora	Kane	687	31	75.0	+ 1.9	99	1	51	13†	42	1.66	− 1.85	0.40	0.0	8	17	10	4	ne.	W. Holden.
Bement	Piatt	700	3	76.0		97	26†	54	19	33	6.36		1.56	0.0	7	17	4	10	s.	Rev. C. S. Adams.
Benton	Franklin	598	8	77.4		94	25	58	19†	28	3.15		1.25	0.0	8	2	15	14	ne.	F. H. Stamper.
Bloomington	McLean	840	19	75.8	+ 0.2	98	24†	54a	18†	35a	2.91	− 0.90	1.00	0.0	9	15	6	10	sw.	Prof. H. N. Pearce
Cairo	Alexander	359	33	78.3	− 0.3	94	25	63	19	24	7.59	+ 4.14	2.11	0.0	16	10	11	11	s.	U. S. Weather Bureau.
Carbondale	Jackson	412		79.4		100	25	54	20	33	8.58	+ 5.48	2.90	0.0	13	14	8	9	sw.	State Normal University.
Carlinville	Macoupin	663	20	76.5	+ 0.1	97	25	55	19†	30	5.89	+ 1.96	1.05	0.0	11	12	13	6	ne.	R. O. Purviance.
Clinton	Dewitt	727		75.6		97	27	52	19	32	3.75		1.10	0.0	10	16	11	4	sw.	J. F. Ziegler.
Coatsburg	Adams	763	18	77.0	+ 0.4	97	24	55	18	30	4.96	+ 0.85	3.17	0.0	5	12	12	7	s.	Dr. J. R. Lambert.
Cobden	Union	656	27	78.9	+ 0.3	98	25	57	20	28	10.82	+ 6.42	3.70	0.0	13	12	5	14	s.	John Buck.
Dakota	Stephenson	929	5	75.2		98	1	49	19	33	1.45		0.71	0.0	6	13	16	2	e.	Rev. G. W. Kerstetter.
Decatur	Macon	685	19	76.2	+ 0.5	97	25	53	19	31	3.23	− 0.18	0.99	0.0	10	15	10	6	sw.	Prof. J. H. Coonradt.
Dixon	Lee	725	20	76.4	+ 2.4	98	1†	50	19	39	0.70	− 3.24	0.38	0.0	5	18	9	4		H. V. Bardwell.
Du Quoin	Perry	459	22	79.0	+ 0.7	98	25	58	19†	28	3.68	− 0.60	1.56	0.0	10	15	11	5	sw.	G. H. Knetzger.
Dwight	Livingston	600	17	75.7	+ 0.4	99	24	51	19	35	1.36	− 2.04	0.67	0.0	6	10	12	9	sw.	Ed. O. Welch.
Elgin‖	Kane	716	3	75.2		103a	1	52a	18†	40a	3.14		1.47	0.0	5	6	24	1	sw.	Elgin Observatory.
Galva	Henry	842	18	75.8	+ 1.5	100	24	51	18	36	2.24	− 1.51	0.76	0.0	9	23	2	6	sw.	Prof. F. U. White.

TABLE 1.—*Climatological data for July, 1910. District No. 5*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Illinois—Cont'd.																				
Greenville	Bond	635	32	76.6	− 0.8	94	27	56	19	26	8.01	+ 4.27	2.32	0.0	15	10	10	11	sw.	M. S. Oudyn.
Griggsville	Pike	650	25	76.3	− 0.3	94	24	57	19	24	4.45	+ 0.99	1.90	0.0	6	14	16	1	sw.	Geo. F. Kneeland.
Halfway	Williamson	560	14	78.8	+ 0.1	99	25	57	19	26	6.04	+ 2.81	2.08	0.0	11	14	5	12	sw.	E. L. Hearn.
Havana	Mason	475	18	78.6	+ 1.4	101	22†	56	19	31	3.35	− 0.87	1.33	0.0	7	11	19	1	s.	F. & C. Borgelt.
Henry	Marshall	500	22	77.2	+ 2.8	102	24	50	19	35	1.27	− 2.38	0.54	0.0	6	19	10	2	sw.	Dr. F. A. Powell.
Hillsboro	Montgomery	675	16	76.0	− 0.4	97	25	55	19†	30	4.20	+ 0.22	1.55	0.0	9	15	2	14	nw.	Ira L. Woodward.
Joliet	Will	541	19	75.6	+ 1.8	98	24	54	19	35	1.46	− 2.10	0.50	0.0	8	17	5	9	sw.	F. M. Muhlig.
Kishwaukee	Winnebago	730	22	75.4	+ 2.3	101	1	47	19	40	2.04	− 1.51	0.75	0.0	7	21	9	1	sw.	Geo. Stevens.
La Grange	Cook	657	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. F. E. Sanford.
La Harpe	Hancock	698	31	74.3	− 2.1	97	24	51	19	40	3.61	− 0.88	1.90	0.0	5	14	9	8	sc.	Jno. S. Campbell.
Lanark	Carroll	883	21	75.2	+ 2.6	101	26	40	19	45	1.34	− 2.81	0.49	0.0	6	28	3	0	sw.	M. N. Wertz.
La Salle	La Salle	536	33	76.4	+ 1.1	99	21	52	19	34	0.79	− 2.48	0.24	0.0	4	15	7	9	sw.	U. S. Weather Bureau.
Lincoln	Logan	482	22	74.8	− 1.1	95	24†	49	19	35	2.99	− 0.15	0.96	0.0	9	12	15	4	s.	Prof. C. S. Oglevee.
Martinton	Iroquois	633	23	75.3	+ 1.1	101	1	52	18†	37	4.36	+ 0.90	1.55	0.0	9	17	8	6	sw.	Jos. H. Peltier.
Mascoutah	St. Clair	425	20	78.6	+ 0.7	100	25	54	19†	34	5.90	+ 2.42	1.85	0.0	11	14	15	2	se.	Geo. Henrich.
Minonk	Woodford	745	17	76.2	+ 1.4	100	24	51	19	38	1.31	− 1.75	0.53	0.0	8	18	10	3	sw.	O. M. Davison.
Monmouth	Warren	784	18	76.6	+ 1.8	101	24	50	19	37	2.62	− 1.70	1.20	0.0	8	20	6	5	e.	Hugh R. Moffet.
Morrison	Whiteside	685	16	75.4	+ 2.1	99	24	46	19	37	1.08	− 3.83	0.42	0.0	5	19	10	2	sw.	S. A. Maxwell.
Morrisonville	Christian	638	11	74.8	− 0.4	94	25	53	19†	30	5.05	+ 0.81	1.50	0.0	10	15	11	5	sw.	J. D. Lowis.
Mount Vernon	Jefferson	511	16	77.8	0.0	98	25	55	20	32	5.97	+ 1.76	1.73	0.0	15	12	5	14	sw.	Theo. P. Stelle.
Oregon	Ogle	702	1	75.5	.....	99	1	48	19	39	0.95	.....	0.55	0.0	3	27	4	0	s.	Samuel Ray.
Ottawa	La Salle	500	24	76.8	+ 1.6	101	24	51	19	36	0.67	− 3.15	0.30	0.0	4	21	0	10	sw.	Miss M. M. Harris.
Pana	Christian	692	24	75.8	− 0.5	92	8	55	19	30	4.30	+ 0.30	1.61	0.0	14	17	10	4	sw.	C. W. Sibley.
Peoria	Peoria	609	33	75.4	0.0	99	24	50	19	36	3.23	+ 0.26	1.89	0.0	8	13	10	8	s.	U. S. Weather Bureau.
Pontiac	Livingston	546	8	77.1	.....	100	24	51	19	35	1.25	.....	0.60	0.0	8	15	10	6	sw.	Geo. Butterworth.
Riley	McHenry	956	51	75.2	+ 3.6	98	1†	51	13	34	1.09	− 2.40	0.63	0.0	6	14	12	5	sw.	John West James.
Rockford	Winnebago	763	18	75.6	+ 1.8	99	1	50	19	39	1.91	− 1.71	0.60	0.0	6	20	6	5	.....	Hosmer C. Porter.
Rushville	Schuyler	670	19	76.0	+ 0.4	98	24	55	19	27	2.86	− 1.17	0.98	0.0	7	21	6	4	sw.	H. F. Dyson.
St. Charles	Kane	700	15	75.2	+ 1.6	99	1	51	13	40	1.77	− 2.13	0.60	0.0	8	17	14	0	sw.	Dr. Wm. H. Bishop.
St. Peter	Fayette	.....	.....	76.4	.....	93	8†	54	20	31	5.58	.....	1.76	0.0	11	6	22	3	sw.	M. L. Lansford.
Sparta	Randolph	538	24	76.7	− 0.5	97	25	54	19†	29	5.16	+ 1.64	1.69	0.0	16	13	16	2	s.	Jas. A. Caldwell.
Springfield	Sangamon	644	33	76.4	− 0.1	96	25	57	18	27	2.63	− 0.27	1.24	0.0	10	12	8	11	sw.	U. S. Weather Bureau.
Streator	La Salle	626	17	76.6	+ 1.7	101	24	51	19	38	0.81	− 3.08	0.22	0.0	8	27	3	1	sw.	Edw. F. Sweetser.
Sullivan	Moultrie	530	16	76.1	+ 0.5	95	27	53	19†	30	4.90	+ 2.03	1.57	0.0	9	12	16	3	sw.	C. A. Corbin.
Sycamore	De Kalb	855	30	75.8	+ 3.8	104	1	48	19	46	1.50	− 2.18	0.62	0.0	4	20	6	5	sw.	Miss E. J. Davis.
Tiskilwa	Bureau	798	16	75.8	+ 1.9	98	24	52	14†	35	0.91	− 3.23	0.41	0.0	5	22	4	5	w.	F. I. Smucker.
Walnut	do	717	19	77.4	+ 1.8	100	1†	51	19	36	1.34	− 2.69	0.57	0.0	7	21	10	0	s.	O. C. Nussle.
White Hall	Greene	573	2	75.2	.....	97	25	53	20	37	4.26	.....	1.98	0.0	7	15	8	8	sw.	Dr. R. A. Pritchett.
Windsor	Shelby	681	11	76.1	+ 0.8	97	25	50	19†	35	5.68	+ 1.46	1.73	0.0	14	8	12	11	sw.	Herbert Rose.
Winnebago	Winnebago	900	23	75.8	+ 2.9	101	1	49	19	39	2.32	− 1.47	1.18	0.0	9	26	4	1	w.	Frank Osborn
Yorkville	Kendall	584	23	75.6	+ 2.7	101	1	47	19	46	1.59	− 1.92	0.70	0.0	8	21	9	1	w.	Herman A. Grimwood.
Zion	Carroll	938	16	75.0	+ 3.1	99	1	46	19	38	1.04	− 2.75	0.50	0.0	4	23	6	2	w.	Robt. F. Gillogly.

[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
[*] Precipitation included in that of the next measurement.
[**] Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
‡ Separate dates of falls not recorded.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
¶ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
‖ Estimated by observer.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for July, 1910. District No. 5, Upper Mississippi Valley.*

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
North Dakota.																															
Amenia	Red									T.		.43			.26									.50									1.19
Bottineau	Mouse	.25	.02			.62	.06				T.	.01								.16	T.			.76	.34				.01				2.23
Cando	Sheyenne	.48				.85	.04					.26						.05						1.48	.03			.02					3.21
Crosby	Mouse	.06			T.	.03			T.	T.	.09	.31					T.		T.					1.10				T.			.03		1.62
Devils Lake	Sheyenne					.10		.02	.01	.01	.08	.55					T.		.02		T.			1.05				T.					1.84
Donnybrook	Mouse	.04			T.	.41					.66	.37							.10				1.35	.18								3.11
Dunseith	do				T.		T.	T.			T.	T.					T.		T.		T.	T.		1.40	.03			T.					1.43
Edmore	Sheyenne	T.				.50	T.					.10												1.22									1.82
Forman	do						.35							1.55																			1.90
Grafton	Red																T.	T.															T.
Granville	Mouse	.16	T.			.04				T.	.03	.71							.34		.03			.63				T.				.03	1.97
Hannah	Pembina	.40				T.																	1.41				T.						1.81
Hansboro	Red	.25				.06																		.80				.15					1.26
Hillsboro	do									.05	.03	.35		T.						.15	.08			1.20									1.86
Lakota	Sheyenne	.26				.09	.02	T.	T.		T.	.52							T.		T.			1.23				T.					2.12
Langdon	Pembina	.26				.14							.03											.63	.28							.05	1.39
Larimore	Red									.07		.73												.57									1.37
Lisbon	Sheyenne						.37	T.	.04			.15	.03		2.12							.11										.03	2.85
McKinney	Mouse					.55					.30												*	1.05	.05								1.95
Manfred	Sheyenne	.53				.17						.78							.02					.59									2.09
Mayville	Red											.68												.82									1.50
Minot	Mouse	.11		.21		.06	.27				.07	.40	.06							.32				.65	.12			.01					2.28
Minto	Red					.30		.05		.07		.08												.55									1.05
Oriska	Sheyenne									.10		.34		.13										.01				.12					0.70
Park River	Red																																
Pembina	do	.08				.20																		.02	.65							.10	1.05
Power	Sheyenne					.32						.22		.40												T.							0.94
Pratt	Mouse		.15			.26						.16											1.00	.06									1.63
Towner	do																																
University	Red					T.	.06	T.	T.	.04		.54																					0.64
Wahpeton	do																																
Walhalla	Pembina				.30	T.						.01												.63									0.94
Westhope	Mouse					.71																	1.80										2.51
Willow City	do	.12										.25							T.					.90				T.					1.27
Minnesota.																																	
Albert Lea	Mississippi						.40			1.00		T.						T.			T.		T.					T.					1.40
Alexandria	do						1.92			.25	.10		.27		.18							1.06											3.78
Angus	Red	T.				.78		.08	.12			.29							T.					.27	T.								1.54
Bagley	do						.28			.07	.07	.76												.76									1.94
Baudette	Rainy					T.	T.		.01	.05		.02												.82	.05							.42	1.37
Beardsley	Minnesota						.22			.09		.23		T.							T.											.03	0.57
Beaulieu	Red																																
Bird Island	Minnesota						.07			.56		.46	.05		.34									.11				.10				T.	1.69
Caledonia	Mississippi									T.							.39					.05		T.	1.15				T.				1.59
Campbell	Red						.10		T.	.02				.10		.43						T.							T.				0.65
Cass Lake	Mississippi						.85		T.	T.		T.		T.										1.65		T.							2.50
Collegeville	do	.02					.04			.17		.32	.01									.07		.10								.04	0.77
Crookston	Red						T.			.04		.37	.04							.13					.57							.03	1.18
Detroit	do						.31	.75		.03	T.	.02	.28		.10									.34	T.				T.				1.83
Fairmont (near)	Minnesota						.30			.92		T.			.16								T.	.05		T.		.21					1.64
Faribault	Mississippi						.75			.94		.27	.17											.04				.10				T.	2.27
Farmington	do						.26			.56		T.	.70								.11	T.		.85	.17				T.				2.65
Fergus Falls	Red						.03		.15			.15		1.10							.30			.06				.10					1.89
Fort Ripley	Mississippi						.20				T.		.55		.13							.08			T.								1.86
Fosston	Red						.31			.09		.60	.05											.67									1.72
Fram	do							.04																.87								T.	0.91
Glencoe	Mississippi									.45	.15													.25				.15				T.	1.00
Grand Meadow	do						.22			.52			T.											.25				.02				T.	0.76
Hallock	Red	T.				.55					.02	.02												.37	.02							.02	0.80
Halstad	do									.01	.03	.25	.10		.04							.02			1.12								1.57
Hinckley	St. Croix									.27	.26	.27						.21						.18									1.19
International Falls	Rainy						.52		T.		.12		.10			T.								.87	.05	T.						.46	2.12
Kelliher	Red						.07			.07		.71					T.				T.			1.07	.03	.20							2.15
Lake Crystal	Minnesota						.11			1.05			.14		.21									.11				.16					1.78
Leech Lake Dam	Mississippi						1.30			.02		.35								.03				2.33									4.03
Little Fork	Rainy	.08					.83					.18					T.			T.				.85	.03							.27	2.24
Long Prairie	Mississippi																																
Lynd (2)	Minnesota						.27		T.	.42			.36		.27									.04		T.		.40					1.76
Mankato	do						.16			.77	.26		.13												.11				.17				1.60
Mapleplain	Mississippi																																
Milaca	do																																
Milan	Minnesota	T.	T.				.75			.20		.38									T.			T.				.10				.15	1.58
Minneapolis	Mississippi					T.				.34		.07	.09	T.							T.	.05		.17								.02	0.74
Montevideo	Minnesota		.18			.42				.30	.11		.96		T.								T.		.05			.25	.02				2.29
Moorhead	Red					T.			.08		T.	.44		.12						.02	.01			.16									0.83
Mora	St. Croix									.30		.14						1.02			.60			.55									2.61
Morris	Minnesota						.52			.10		.20		.02							.16			T.								.22	1.22
New London	Mississippi	.23				.05				.22		.48										.18										.05	1.21
New Richland	Minnesota						.57			.61		.10									.12			T.				.06					1.46
New Ulm	do						T.			.67	.10		.18		.07										.16			T.	.35				1.53
Osakis	Mississippi						1.20			.14		.22		.10								.08		T.								.01	2.65
Park Rapids	do						.90		.06			T.	.39		.01			T.							.23									1.59
Pine River Dam	do						2.10		.20	.18		.60		.25										.35									3.68
Pokegama Falls	do						1.36			.14	T.	.42	T.				.17	.07		.08				3.18		.20	T.					.14	5.76
Red Lake	Red						.22	.33		.05		.58					.08							1.55		.30						.07	3.18
Red Wing	Mississippi						.34			.26	.36		.48						.28					.10	.08								1.90
Redwood Falls	Minnesota						.36			.41		.41			T.									.11				.19					1.48
Reeds Landing	Mississippi						.28			.42	.14		.08						.74					.14	.04								1.84
Rochester	do						.26			.27	.16								.15														0.84
Roseau	Red									.17										.05				.43	.09							.42	1.16
St. Charles	Mississippi									.32	.10		.02						.75				.07	.05					.01				1.32
St. Cloud	do						.01			.28		.34												T.									0.63
St. Paul	do						.01			.33		.13	.15									T.		.24								.13	0.99
St. Peter	Minnesota					T.				.75		T.	T.															.31					1.06
Sandy Lake Dam	Mississippi						2.15	.29	.23	.02	.47	.02	.04				.06							.70	.03								4.01
State Sanatorium	do						.87				.08	.44												1.15									2.54
Stillwater	St. Croix						.02			.16	.22		.32						.04						.42								1.18
Taylors Falls	do									.76		.22					.89							.31	.21								2.39
Warroad	Rainy		.02						.06							.08								.68								.53	1.37
West Concord	Mississippi						.20			.67		.05												T.				T.				T.	0.92
Willow River	St. Croix																																
Windom	Des Moines						.08			.76		T.			.28									T.		T.		.22					1.34
Winnebago	Minnesota						1.20			.58	.02		T.		.13							T.						T.	T.				1.93
Winnibigoshish	Mississippi						.58			.08	.04	.31					.12							2.03		.05						.18	3.39

TABLE 2.—*Daily precipitation for July, 1910. District No. 5*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Minnesota—Cont'd.																																	
Winona	do									.13			.02					.06						.26	.15			T.					0.62
Worthington‖	Des Moines						.14			.65	.13					.55									.10		.19		.13				1.89
Zumbrota	Mississippi						.08			.76		T.					T.											T.				.30	1.14
South Dakota.																																	
Milbank	Minnesota		.37				.84			.08	T.		.34		T.							.07						.17	.04		T.	1.91
Wisconsin.																																	
Antigo	Wisconsin									.04			.38											.22	1.01		.63					.15	2.43
Barron	Chippewa						.20			.32	T.	T.	.66					.35							.68								2.21
Belott	Rock									.08						.05		.81					.10	.18									1.22
Big St. Germain Dam	Wisconsin								T.	.25	.14		.33											.03	1.10		.50			T.		.04	2.39
Brodhead	Rock									.36			.16				.12	.95					.08	.05				T.					1.72
Burnett	do									.08			.82									T.	T.	.06	.80								1.76
Darlington	do																	.50					.30										0.80
Deerskin Dam	Wisconsin			T.				T.		.30	.19		.37									.15		T.	.93		.26					.04	2.24
Delavan	Rock						T.			.20		.19	.06		T.	.02	.29						.04	.09	.03								0.92
Dodgeville	do																																
Downing	Chippewa						.02			.62			.70					.26						.02	1.47								3.09
Eau Claire	do						.06			.56		T.	.16					.98				T.		.09	.62								2.47
Grand Rapids‖	Wisconsin										.46			.08		.04		.15				.08	T.		.95								1.76
Grantsburg	St. Croix									.20	T.	.32	.10				1.20							1.90					.15			.18	4.05
Hancock	Wisconsin										.08		T.					.11				.03			.98								1.20
Hatfield	Black									.03			.20											.05	1.75								2.03
Hayward	St. Croix						.12		.15		T.	.22	.25									T.		T.	1.60					.16		.62	3.12
Hillsboro	Wisconsin									.07		T.	T.		T.			.58				T.	T.	T.	1.00			T.					1.65
Koepenick	do									T.	.11		.30											.25	.80		.40					.40	2.26
Lac du Flambeau	Chippewa																																
LaCrosse	Mississippi									.01			T.				.10	.38				.04		.26	.20			T.				.04	1.03
Lake Mills	Rock									.02			1.06			T.		.08					T.	.02	.22			T.					1.40
Lancaster	Mississippi									.10			.06					.41					.07	.07				T.					0.71
Long Lake	Wisconsin									.18	.19		.30									.01		.03	.70		.33						1.74
Madison	Rock	T.								T.		.14	.03		.10			.26					T.		.28			T.				T.	0.81
Mather‖	Wisconsin										.10		T.	.12				.37					.08	T.	.48								1.15
Mauston	do										.11							.40							1.20								1.71
Meadow Valley	do									.06	.03		.11					.51						.05	.61								1.37
Medford	Black									.15			.65											.45	1.18					.08			2.51
Merrill	Wisconsin									.15			.30	.01										.16	.67					.12		.25	1.65
Minocqua	do									.50	.13		.35												1.28		.04		.07	.07		.08	2.52
Mondovi	Mississippi						.07			.52		T.		.01				.65						.54	.20								1.99
Mount Horeb	Rock									T.		T.	.04					.65							.22			T.					0.91
Muscoda‖	Wisconsin										.08							.60					T.		.36				T.				1.04
Neillsville	Black									T.			.16		.04			.46				.58			1.52								2.76
New Richmond	St. Croix						.04			.68		.18	.93					1.02						.41	.62								3.88
Osceola	do						T.			.25			.40					.28			T.				.75				.03			.06	1.77
Park Falls	Chippewa								T.	.33	.04		.59											.14	1.09					.60			2.79
Portage	Wisconsin										.10							.11				.05			.78								1.04
Prairie du Chien‖	Mississippi										.04							.18						.02	.02	.26								0.52
Prentice	Chippewa									.33	T.	.26	.26											1.60			11		.29			.44	3.29
Rhinelander	Wisconsin									.16	.03		.30					.01						.02	.60		.23			.04		.05	1.44
Sauk City	do										.85				.40			.42							.70								2.37
Shullsburg	Mississippi										13							1.03															1.16
Solon Springs	St. Croix						.35	T.	.70	T.	.15	.40	.20				T.							1.70					T.			.70	4.20
Spooner	do						.18			.15	.03	.29	.12					.04					.15						.06				1.02
Stanley	Chippewa									.30			.26					.45				T.	.01		.25	1.41				.03			2.71
Stevens Point	Wisconsin									T.	.05		.12					.07					.04			.66							0.94
Sugar Camp Dam	do									.28	.25	.38													1.08		.48		.02		T.		2.49
Twin Lakes Dam	do									.30	.20	.29													1.14		.25						2.18
Valley Junction	do									T.			.12					.64						T.	.84								1.60
Viroqua	Mississippi									T.	.01							.46					T.		1.51			T.					1.98
Vudesare	Wisconsin			T.				T.					.40									.12	.34		.10	.35						.03	1.34
Watertown‖	Rock									T.			.18	.10		.23	T.								.09	.64							1.24
Waukesha	Fox									.01			1.35												.01	.07							1.44
Wausau	Wisconsin									.05			.41												.36	1.10							1.92
Weyerhaeuser	Chippewa						.35		T.	.27			.90					.13					.27		1.60							.31	3.83
Whitehall	Mississippi									T.			T.					.90							T.	T.							0.90
Iowa.																																	
Albia‖	Des Moines			.13							.05					.11										1.22			.06				1.57
Algona	do						.38															T.	T.			.17	.12		.10				0.77
Alta‖	Raccoon				*		.95			.38	.02					.15	.05					T.	.24	.30		T.		.14		.35			2.58
Amana	Iowa												.02			.30								.01				.06		.69			1.08
Ames	Skunk		.27		T.					T.						.42								T.			.20	.15		.65			1.69
Baxter	do									T.			.01			.09								.04			T.	1.44		.49			2.07
Belle Plaine	Iowa									T.		.01				.20									T.			.10		.55			0.86
Belmond	do						.98			.22		T.				.22								.10	T.		.33	1.10		.18			3.13
Bloomfield	Mississippi																																
Bonaparte	Des Moines									.15		.13					1.00											.28			1.33			2.89
Boone‖	do			.04							.19		T.			.75								.08	T.			.19		.50	.11		1.86
Britt	Iowa						.58			.42						.16								T.			.20	.14		.10			1 60
Buckingham	Cedar												.07															41		.28			0.76
Burlington‖	Mississippi			.63				T.			.80		T.				2.07	.22										.15		.13	.15		4.15
Carroll‖	Raccoon		T.			.22										.60						T.	.26				T.		.06			1.14
Cedar Rapids‖	Cedar											T.				.12		T.						T.			.13		.19	T.			0.44
Charles City	do									.04						.02												.04	.06				0.43
Clear Lake	do						.30											.13						.14				.80		.12			1.22
Clinton	Mississippi									.37		.32				.11		.10						.35						.43			1.68
Columbus Junction	Iowa						.15			.75		.15				T.	1.02											.10		.85			3.05
Davenport	Mississippi									.30		.22			2.01			.05						T.						.28			2.86
Decorah	do									T.			.02					.45						.26									0.73
Delaware	do										.10					.02								.41				.12					0. 65
Des Moines	Des Moines		T.							.01		T.				.27				T.	T.			.02			.54	.02	T.	T.			0.86
De Soto	Raccoon		.14							T.			.12			.12					T.			.04			.03	.30	T.				0.63
Dubuque	Mississippi									.18		.01				.01		.23						.04				T.	T.				0.47
Earlham	Raccoon		.11							.06						.11					T.			.09			.47	.27	T.				1. 11
Elkader	Mississippi									T.			T.					.03					T.	.11		.27							0. 41
Elma	Wapsipinicon	.10				T.			.03							T.								.12		.07		.01					0.33
Estherville‖	Des Moines						.34			.53	.06		.26											.41			.15		.25				2.00
Fairfield	Skunk			T.						.11	.01	.32				.36	.32										.43			1.53			3.08
Fayette	Mississippi									T.						T.								.15		.36		.50	T.	.03			1.04
Forest City‖	Cedar						.37			.27	.03					.13												.85		.15			1.80
Fort Dodge‖	Des Moines						.68			.04	.22					.23	.12						T.	.12	.05			.11		1.25	T.		2.82
Fort Madison	Mississippi		.05	T.						.26						T.	1.27										T.	.39			.75			2.72
Gilman	Iowa									T.		T.				.04						T.					T.	.19		.72			0.95
Grand Meadow	Mississippi		.17							T.								.21						.19		.19			T.				0.76
Greene	Cedar									.08						.10		.10								.13		.07		.20			0.68
Grinnell	Iowa									T.		.85				.13					T.		T.				T.	.44		.50			1.92

TABLE 2.—*Daily precipitation for July, 1910. District No. 5*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Iowa—Cont'd.																																	
Grundy Center	Cedar														.28			T.		T.	.10		.14			.52			.26				0.92
Guthrie Center	Raccoon		.05				T.	.05		.05													.07			.12	.10		.03				0.85
Hampton	Cedar					.05				.07					.18								.06	.15		.20		.24					0.95
Humboldt	Des Moines						.68			.62					.35						.05		.03				.03		.06				1.82
Independence	Wapsipinicon										.02				.09			.06					.07						.27				0.51
Indianola	Des Moines									.02					.03					T.	T.		.05	T.		.05	.55	T.	T.				0.70
Iowa City	Iowa										.61		.07			.21								.05			.03		1.20	.05			2.22
Iowa Falls	do			T.			T.				T.				.10									.40	.15		1.38		.21				2.19
Jefferson	Raccoon																																
Keokuk	Mississippi		.20				.01			.41					.67	.58							T.			.03	.29		.36	.19			2.74
Keosauqua	Des Moines			.09							.21		.17			1.23	.02							T.			.45			3.52			5.69
Knoxville	do		T.							T.		.39			.11						T.		T.			.12	1.00	T.	T.				1.62
Lacona	do		.01							.01		.10			.15			T.			T.	T.	.01	T.		.10	.58						0.96
Le Claire	Mississippi										.40		T.			1.14		T.						.04					.28	T.			1.86
Marshalltown	Iowa						T.				T.				.05							T.	.06	T.	T.		.19		.71	.04			1.05
Mason City	Cedar						.08			.17																	.36		.10				0.71
Mount Pleasant	Skunk			T.						1.50		.04			.02	1.02							.03				.30		.20	.38			3.49
Muscatine	Mississippi										1.43		T.			.12	.04	.02						.02			T.		1.35	.06			3.04
New Hampton	Wapsipinicon									.03													.09										0.12
Newton	Skunk											.30			.20												.78		.55				1.83
Northwood	Cedar									.40								.52					.83		.03	T.		T.	T.				1.78
Olin	Wapsipinicon									.06		.03	.06		.09								.09	.01			.03		.26				0.63
Osage	Cedar									.33							T.						.23										0.56
Oskaloosa	Des Moines			.05							T.				.83	T.					T.		T.			.56	T.		1.56				3.00
Ottumwa	do		T.				T.			.05					.06	.04							T.			.59		T.	T.	2.47			3.21
Pella	do									T.		.08			.20						T.		.13	T.		.05	.52		.11				1.09
Perry	Raccoon		.14							.07					.64						.03		.05				.06		.08				1.07
Plover	Des Moines						.35			.70					.10						.45		.50	T.		T.			.20				2.30
Pocahontas	do						.48			.40					.28						.02		.22			.09				.38			1.87
Ridgeway	Mississippi									.03					T.			.12			T.		.39	.01				.02					0.57
Rockwell City	Raccoon									.95					1.00								.35					1.00					3.30
Sac City	do						.33			.34					.15											.02			.23				1.07
St. Charles	Des Moines		.21							.03								T.					.03	T.		.04	.55		T.				0.86
Sigourney	Skunk														.70	.14							.01				.33	T.	.58	.35			2.11
Stockport	do									.33	.02	.03			.19	1.01							T.			T.	.28		T.	1.34			3.20
Storm Lake	Raccoon						.62			.35					.26					.44			.27	T.		.12			.55				2.61
Stuart	do																																
Tipton	Cedar									.08		.05			.42														.40				0.95
Toledo	Iowa														.25								.05			T.	.25		.65				1.20
Wapello	do									1.37	T.					.89							T.						1.10	.11			3.47
Washington	Skunk									.27					.43	.80											.12		.56	.06			2.24
Waterloo	Cedar									T.					.02	.03		.45					.04	.07			.04		.19				0.84
Waukee	Raccoon		.32					T.		.01					.09						T.		.06	T.			.16	.15	.02				0.81
Waverly	Cedar									T.		T.			T.			.20					.09		.20		.10		.23				0.82
Webster City	Des Moines		T.	T.			.21			.17					.49								.16	T.	T.	.12		.66					1.81
West Bend	do						.43			.49					.04								.15	T.		.05			.16				1.32
Whitton	Iowa									T.					.18						T.		.12			T.	.71		.85				1.86
Winterset	Des Moines		T.					T.		.04					.09						.02		.07	T.		.15	.35		T.				0.72
Missouri.																																	
Gorin	Mississippi		.39							.82		T.				1.59											.38			2.90			6.08
Hannibal	do		T.				.02			.07	.01				1.17	2.20										.07	.26	.68		.18	4.66			9.32
Lousiana	do				.26		.23				43		.21		T.	3.40	.07									.01	.05	3.00			3.26			10.92
Mexico	do			.03	.13			T.			.92	.20	.04			2.46	1.17			.19						.01		1.06	.15			T.		6.36
Steffenville	do		.65								.08	.62			.13	2.85							T.				.94	.95		T.	5.80			12.02
Sublett	do		.75												2.50											2.50	2.50			2.60			10.85
Warrenton	do			.41	.85	.01					.83	.05	.04	.05		.98	.20		.28								1.42	1.28		.04			6.44
Indiana.																																	
Collegeville	Iroquois			.11			.05			T.		1.40	.10			1.85		.89							T.					.55			4.95
Knox	Kankakee						.12			T.			1.58			.46		.40				T.								.44			3.00
Laporte	do												.35					.67					.45	.01									0.88
Plymouth	do						T.				.45		1.25			.41		.13												.06			2.30
Illinois.																																	
Aledo	Mississippi									.60	.04	.03			T.	.20							T.				.04	T.	1.15	.09			2.15
Alexander	Illinois		.13			T.	.06				.37	.25	.19			.75	.13						.01			T.	.19		T.	.48			2.56
Antioch	do						.18				10							.20					.15	.20									0.83
Astoria	do		T.			T.	.01				.45	.08			.87	.51	.04						T.			.14		.05		.04	.46			2.65
Aurora	do						.08			*	.28		.18	.06		T.		.40					.25	.14					.27				1.66
Bement	Mississippi			.12									.86	.90		.28	1.56												1.25	1.39			6.36
Benton	do			1.25	.10	.25				.35	.10					T.										.15			.70	.25			3.15
Bloomington	Illinois			.10							.25		.13		1.00	.22		.18					T.			.07			.48	.48			2.91
Cairo	Mississippi	.19	.60	1.08	.29	1.73	.38		T.	.21	.11	.04	.09			.24	.27	1.66									.01	.41	.28			T.	T.		7.59
Carbondale	do			.23	1.42	.24	1.28			.25	.30	.39				.03	2.90		.09							.03		1.07			.35			8.58
Carlinville	Illinois		.81	.05	.60		.64			.13	.74			.27		1.05	.70									T.		.35		T.	.55			5.89
Carlyle	Mississippi		.50	.30	.65	.15	.20				.86	.30	.50			.50	1.40									.25	.55	.05			.40			6.55
Chester	do		.26	.42	.20	1.52	.04	.94	.50		.56	.08	.20	T.			1.64	T.	1.76								T.	.56	.36				T.		9.04
Clinton	Illinois		T.	.30			.01				.06	.34	.05		.15	.01	1.10									T.			.99	.74			3.75
Coatsburg	Mississippi		.15				T.				.15				T.	3.17											T.	.53			.96			4.96
Cobden	do	.16	T.	.33	2.00		.10	T.		.52	.53	.05	1.02		T.	T.	3.70	.66	.92									.65			.24			10.82
Dakota	do									.15			.09		.01			.71					T.	.07				.42						1.45
Decatur	Illinois		.08	.25	T.	.01					.01	.20	.63		.20	.99							T.			T.	T.	T.	.30	.56			3.23
Dixon	Mississippi										.07					.18		.38						.05					T.	.02			0.70
Du Quoin	do		.15	.08	.23	T.				.33	T.	T.	.18			1.56									.24	.49	.06			.36			3.68
Dwight	Illinois			.04									.67		.18			.34											.07	.06			1.36
East St. Louis	Mississippi			.85	.37	.38	.26	.07			.11						.97									T.	.58	.42		.99			5.00
Edwardsville	do		.15	.06	.02					T.	.80			.06		2.23	T.								.30		1.02			.42			5.06
Elgin	Illinois						T.			.40		.60				.62		1.47				T.						.05						3.14
Galva	do									.59	.17		.05		.38	.06	.04	.05					T.						.41	.49			2.24
Grafton	Mississippi		.08		1.96		.04	.30			1.20		.06	.52			.18										1.90	.36						6.60
Greenville	do		.20	1.22	.27	.56	.67		.02	.02	.70	.01	.46			2.32	.50									.63		.18			.25			8.01
Griggsville	Illinois				T.		T.			T.	.20	T.	.30		T.	1.90	T.									.11	T.	.46			1.48			4.45
Halfway	Mississippi	T.		.08	1.13	T.	.02			.31	.47	T.	.81			T.	2.08	.07									.03		.90			.14			6.04
Havana	Illinois		T.							.31					1.33	.82										.07		.03		.28	.51			3.35
Henry	do										.54		.10		T.	.09		.18					T.						.32	.04			1.27
Hillsboro	Mississippi			.70	.35	.05						.25	.20	.52				1.55								T.	.08	T.			.50			4.20
Joliet	Illinois									.18		.04	.11		.03	.05	.13	.42					T.						T.	.50			1.46
Kishwaukee	Mississippi						.10			.40					.05			.45					.01	.28			.75							2.04
La Grange	Illinois																																
La Harpe	do		T.				T.			.68	.08				T.	1.90							T.				.27	T.	T.	.68			3.61
Lanark	Mississippi									.47			.49		.06			.25					.02	.05				T.	T.					1.34
La Salle	Illinois						T.			.24		T.			.23	T.		.11						T.				T.	.21					0.79
Lincoln	do		T.	.02			.02				.96	T.	.11		.09	.26	.19								T.		T.		.75	.59			2.99
Loami	do		T.	T.	T.	T.	.38				.30	.35	.55		T.	.70	.20	T.					T.				.15	T.	T.	.50			3.13
Martinton	do		.90	.65			T.					.10	.83		.40	.95	.45											.03	.05				4.36
Mascoutah	Mississippi		.54	.22	.26	.86				.04	.20	.01	.57			1.85									.25					1.10			5.90

TABLE 2.—*Daily precipitation for July, 1910. District No. 5*—Ciontnued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Illinois—Cont'd.																																	
Minonk	Illinois			.16						.15		T.	.53		.09	.04		.04					T.						.26	.04			1.31
Monmouth	Mississippi				.01		.01			1.20			.08		T.	.38							.01						.52	.41			2.62
Morrison	do									.28					.42			.09					T.	.14				.15				1.08
Morrisonville	Illinois		.04	1.50	.03		T.			T.	.56		.87			.48	1.01								.08		.06	T.		.42			5.05
Mt. Vernon‖	Mississippi			.15	.14	.86	.08	.04			.34		.35	.09			1.73	.65									26	.60	.03		.03	.62		5.97
Oregon	do										.15				.25			.55					T.										0.95
Ottawa	Illinois												.30		.04			.25										.08					0.67
Pana	Mississippi		.05	.13	.22		.02	.01		T.	.09	T.	1.61	T.		.40	1.19	.02							.06		.02		.07	.41			4.30
Peoria	Illinois			.01						.43		T.	.02		.51	.32		.04					T.		T.			T.	1.83	.07			3.23
Pontiac	do			.02			.16						.60		.19			.01						.01					.21	.05			1.25
Riley	Mississippi						.09	.01			T.		T.	.19		.63							T.	.13			.04		T.				1.09
Rockford‖	do										.40		T.	.26		.02	T.	.40						.23				.60					1.91
Rushville	Illinois		.57				.08			.24		.06			.25	.98							T.	T.		T.			.68				2.86
St. Charles	do						.31				.06		.17		T.	.15		.60					.17	.08			.23	T.					1.77
St. Peter	Mississippi		.57	.21	.47	.05	T.			1.05	.50		.42			.42	1.34								.20		T.			.35			5.58
Sparta	do		.15	1.60	.15	.12	.08	.01		.08	.25	.02	.51			.60	.60	T.	.05						.07		.63			.15			5.16
Springfield	Illinois		.02		.01	T.	T.			.32		.35	.12		.03	1.24							T.		T.		.06		.10	.38			2.63
Streator‖	do										.14		.08	.10		.06	T.	.06	T.					.08					.22	.07			0.81
Sullivan	Mississippi		.11	.35						T.			1.57	.07			1.50	.05								.37			.53	.35			4.90
Sycamore‖	do							T.			.21					T.		.52						.15				.62					1.50
Tiskilwa	Illinois									.23			T.		.14	.08		.05					T.		T.				.41				0.91
Walnut	Mississippi			T.						.45	.14				.56	.01		.04					T.					.08	.06	T.			1.34
Warsaw‖	do		.73				.13			.18					1.12											47		.88					3.51
White Hall	Illinois		.03	.25			T.				.17	T.	.19		T.	1.98									T.	T.	.50		T.	1.14			4.26
Windsor	Mississippi		.21	1.52	1.28					.02	.06	.01	.21	T.		.45	1.03	.07					.01		.03				.53	.25			5.68
Winnebago	do						T.			.11	.10		.05		.14			.44					.03	.20			.07	1.18					2.32
Yorkville	Illinois						T.				.20		.10		.03			.70					.25	.20				.10		.01			1.59
Zion	Mississippi									.02		.30	.50		T.	T.		.22					T.					T.					1.04

TABLE 3.—*Maximum and minimum temperatures at selected stations, July, 1910. District No. 5, Upper Mississippi Valley.*

Date.	North Dakota.										Minnesota.																	
	Bottineau.§§		Devils Lake.		Lisbon.§§		Minot.§§		Pembina.§§		Collegeville.		Crookston.§§		Grand Meadow.		Montevideo.§§		Moorhead.		New Ulm.§§		Pine River Dam.		St. Paul.		Winnibigoshish.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min
1...	70	60	71	60	94	67	75	60	64	60	92	68	88	70	96	64	95	65	92	65	92	65	94	68	91	68	93	68
2...	84	52	83	54	90	54	86	57	62	52	87	69	82	58	94	66	87	62	86	59	89	66	87	64	89	72	89	64
3...	87	57	86	56	90	54	91	59	78	50	85	58	80	64	85	62	80	55	86	54	80	61	77	56	73	60	77	55
4...	95	58	90	59	87	50	96	65	78	50	79	48	85	52	84	54	83	50	84	52	89	55	85	45	84	55	81	49
5...	78	60	83	59	92	60	81	64	80	55	87	63	88	71	89	57	96	49	90	68	92	62	89	62	88	60	87	59
5...	87	48	88	54	95	54	89	53	94	58	85	63	91	60	88	69	87	59	90	58	87	65	88	66	86	67	85	65
7...	76	53	88	60	97	58	86	60	78	69	89	65	90	60	88	59	89	61	94	62	91	60	86	61	91	61	88	60
8...	78	48	80	50	87	53	79	57	79	50	86	65	83	59	93	59	87	60	84	58	87	63	81	61	88	66	80	63
9...	71	46	73	47	80	54	73	48	68	48	80	56	77	55	82	60	79	60	77	58	74	62	78	58	71	61	78	56
10...	70	42	73	51	85	43	71	49	62	44	79	56	78	50	82	53	84	53	80	49	83	55	76	53	81	56	75	54
11...	74	50	71	52	82	53	72	52	80	48	77	56	70	55	85	54	74	57	70	52	86	60	74	50	82	61	71	52
12...	79	42	74	47	82	46	79	46	72	50	77	52	78	50	79	56	79	48	80	48	80	53	75	45	79	54	76	50
13...	87	56	79	58	77	53	94	54	82	51	78	57	83	55	84	50	81	53	76	52	85	53	78	47	81	56	77	53
14...	102	58	96	57	88	50	104	65	94	55	87	65	92	60	85	60	89	58	91	58	91	59	90	60	88	66	89	61
15...	95	68	96	66	95	62	93	61	90	60	93	67	94	67	98	59	93	65	98	64	99	65	96	64	95	68	93	66
16...	80	68	80	63	94	66	92	67	81	62	91	72	80	70	102	68	98	68	93	62	101	68	87	61	88	68	92	57
17...	85	67	82	52	90	54	87	64	92	50	78	57	82	52	88	58	81	62	82	54	85	65	78	51	78	60	79	49
18...	92	58	90	58	94	49	94	64	84	50	81	50	86	52	84	52	85	50	86	49	87	55	84	40	83	58	78	50
19...	87	56	87	61	90	61	83	55	92	56	90	62	85	61	83	54	89	59	90	64	88	59	86	59	85	59	90	61
20...	91	56	90	55	91	49	89	58	90	54	94	64	87	55	91	62	92	66	93	55	96	64	87	62	93	66	89	59
21...	88	49	87	52	84	55	78	52	84	52	88	64	87	54	92	63	89	65	88	56	93	66	85	58	87	70	87	58
22...	90	61	89	54	91	50	92	55	90	50	90	62	89	58	83	65	90	64	91	53	91	68	85	65	91	65	87	57
23...	72	60	75	58	87	60	73	60	78	58	86	64	78	63	94	66	94	65	82	66	95	70	83	63	91	69	77	60
24...	80	53	79	55	86	52	85	57	79	52	84	62	81	59	89	61	89	60	82	59	89	61	79	57	84	63	76	58
25...	78	57	81	55	100	47	79	55	82	52	93	60	91	55	97	68	98	55	94	50	97	56	92	60	95	62	82	61
26...	82	45	82	52	87	49	83	46	90	51	93	63	82	54	97	65	89	58	84	54	91	62	80	60	87	69	79	60
27...	81	48	85	57	88	57	80	50	81	50	84	63	85	60	87	55	76	63	83	59	70	62	85	65	81	64	82	50
28...	75	41	82	49	91	54	81	45	78	51	91	63	86	58	93	59	92	58	88	60	91	60	87	54	90	63	84	58
29...	78	46	76	50	82	48	80	48	76	49	88	62	77	56	91	57	86	53	81	56	87	62	79	60	85	65	78	60
30...	82	48	79	49	85	49	82	48	77	44	82	56	79	50	87	53	85	51	80	52	85	55	86	56	81	59	80	57
31...	81	52	81	55	94	51	82	52	80	46	89	60	84	53	88	54	94	54	90	54	92	55	88	49	85	57	79	54
Mns	82.4	53.6	82.5	55.0	88.9	53.6	84.8	55.7	80.5	52.2	85.9	61.0	83.8	57.9	89.0	59.4	87.4	58.3	86.0	56.8	88.3	61.0	84.0	57.4	85.5	62.8	82.5	57.5

Date.	Wisconsin.														Iowa.													
	Delavan.		Eau Claire.		La Crosse.		Madison.		Mauston.		Spooner.		Wausaw.		Algona.		Cedar Rapids.§§		Charles City.		Davenport.		Des Moines.		Dubuque.		Keokuk.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	98	57	98	65	98	66	97	71	96	60	91	64	98	62	92	63	100	68	97	65	96	73	94	69	98	70	94	74
2...	97	60	93	66	93	66	95	73	95	60	87	67	95	66	87	63	95	70	93	64	88	75	91	71	93	69	82	68
3...	80	65	88	62	83	63	82	60	86	58	74	55	91	52	83	62	88	68	86	63	86	66	87	68	86	70	86	69
4...	75	56	82	50	83	56	75	56	78	47	84	45	78	48	83	55	84	61	83	59	82	59	82	64	80	59	80	61
5...	85	56	89	52	86	56	83	59	84	49	88	56	84	50	88	59	91	61	89	59	86	63	88	63	86	66	86	65
6...	94	57	88	69	90	67	88	65	90	63	84	66	88	62	83	64	93	69	88	65	91	72	87	67	89	70	89	71
7...	91	56	93	55	94	58	89	64	90	52	92	58	92	54	85	70	93	62	90	56	91	66	85	59	91	64	89	63
8...	95	62	90	60	93	61	93	64	95	58	85	64	90	59	88	58	98	63	92	59	94	69	93	61	93	63	92	67
9...	95	59	86	59	75	60	91	63	85	54	68	54	85	55	79	62	95	70	72	58	94	65	82	64	90	62	92	66
10...	85	62	82	55	85	55	81	62	83	55	78	52	80	53	81	54	88	60	83	52	86	64	84	57	84	61	82	65
11...	88	55	86	55	89	54	84	61	87	50	86	49	86	50	86	66	84	60	87	52	82	65	84	58	85	60	80	63
12...	83	66	78	58	77	60	74	64	80	59	76	55	83	57	77	56	82	63	78	55	83	66	78	62	78	62	84	68
13...	85	49	86	51	86	52	83	59	85	48	82	49	83	48	83	50	88	55	84	48	83	60	85	54	84	56	85	61
14...	88	59	91	61	86	65	84	60	86	59	89	64	88	59	86	64	86	56	82	63	84	67	81	66	82	65	86	67
15...	92	65	96	65	97	63	90	67	93	59	94	63	92	63	91	62	89	68	94	62	80	70	87	65	89	67	75	66
16...	98	63	91	60	98	66	91	63	97	72	74	59	91	64	96	68	100	67	98	64	97	68	97	65	96	67	94	67
17...	77	59	81	56	81	59	75	58	78	55	72	51	78	53	85	70	83	64	83	60	79	63	83	69	80	60	88	68
18...	77	51	80	52	81	55	76	54	80	45	80	46	80	46	83	53	83	55	82	52	79	56	80	61	79	56	78	57
19...	83	45	86	52	88	55	82	56	84	53	88	53	85	53	85	53	86	53	84	52	82	57	83	56	84	54	80	57
20...	87	54	92	65	92	64	87	63	90	65	91	57	90	63	81	68	89	56	85	63	85	62	84	61	89	64	84	61
21...	89	60	88	68	95	66	89	64	92	67	84	61	90	68	93	60	94	61	93	60	88	67	92	67	91	65	86	66
22...	80	59	88	68	84	68	80	69	86	64	88	54	89	54	84	67	79	68	76	68	82	71	86	71	83	70	83	70
23...	91	66	90	64	94	69	90	68	94	65	93	61	88	62	93	68	94	68	95	68	89	73	92	70	93	70	89	71
24...	95	72	90	65	88	66	87	65	86	62	78	61	89	64	88	68	95	73	88	64	97	74	94	68	90	74	99	77
25...	93	62	89	62	92	61	86	67	85	62	86	58	83	62	86	68	97	63	90	55	96	67	95	60	93	66	96	66
26...	98	59	88	65	94	64	90	64	90	58	83	66	85	61	90	64	95	63	93	63	93	73	91	68	95	71	87	68
27...	87	66	81	57	76	57	79	66	85	54	83	52	86	55	81	56	91	68	81	55	91	72	89	71	84	68	91	70
28...	91	64	90	58	90	60	88	65	88	60	87	57	87	59	89	69	80	66	88	64	79	66	77	68	86	67	89	69
29...	96	66	89	60	92	65	89	69	88	65	80	53	86	59	90	68	85	67	92	63	95	70	92	66	93	68	86	70
30...	85	56	81	55	83	57	80	62	84	55	78	51	80	55	83	53	88	59	84	53	86	62	83	64	83	60	84	65
31...	86	48	88	52	88	53	84	57	83	46	85	54	81	47	90	64	90	57	88	52	85	62	90	58	87	57	87	63
Mns	88.5	59.2	87.7	59.7	88.1	60.9	85.2	63.2	87.2	57.4	83.5	56.6	86.5	56.9	86.1	61.9	90.3	63.3	87.1	59.2	87.4	66.5	87.0	64.2	87.5	64.5	86.5	66.4

TABLE 3.—*Maximum and minimum temperatures at selected stations, July, 1910. District No. 5*—Continued.

Date.	Illinois.															
	Hannibal, Mo.		Laporte, Ind.		Cairo.		Greenville.		La Salle.		Monmouth.		Mt. Vernon.‡‡		Peoria.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	88	72	82	58	86	72	88	72	86	68	86	68	88	72	86	68
2	86	72	82	58	84	70	86	70	84	66	84	66	86	70	84	66
3	88	72	82	58	86	72	88	72	86	68	86	68	88	72	86	68
4	86	72	82	58	84	70	86	70	84	66	84	66	86	70	84	66
5	86	72	82	58	84	70	86	70	84	66	84	66	86	70	84	66
6	88	72	82	58	86	72	88	72	86	68	86	68	88	72	86	68
7	88	72	82	58	86	72	88	72	86	68	86	68	88	72	86	68
8	88	72	82	58	86	72	88	72	86	68	86	68	88	72	86	68
9	88	72	82	58	86	72	88	72	86	68	86	68	88	72	86	68
10	88	72	82	58	86	72	88	72	86	68	86	68	88	72	86	68
11	88	72	82	58	86	72	88	72	86	68	86	68	88	72	86	68
12	88	72	82	58	86	72	88	72	86	68	86	68	88	72	86	68
13	88	72	82	58	86	72	88	72	86	68	86	68	88	72	86	68
14	88	72	82	58	86	72	88	72	86	68	86	68	88	72	86	68
15	88	72	82	58	86	72	88	72	86	68	86	68	88	72	86	68
16	88	72	82	58	86	72	88	72	86	68	86	68	88	72	86	68
17	88	72	82	58	86	72	88	72	86	68	86	68	88	72	86	68
18	88	72	82	58	86	72	88	72	86	68	86	68	88	72	86	68
19	88	72	82	58	86	72	88	72	86	68	86	68	88	72	86	68
20	88	72	82	58	86	72	88	72	86	68	86	68	88	72	86	68
21	88	72	82	58	86	72	88	72	86	68	86	68	88	72	86	68
22	88	72	82	58	86	72	88	72	86	68	86	68	88	72	86	68
23	88	72	82	58	86	72	88	72	86	68	86	68	88	72	86	68
24	88	72	82	58	86	72	88	72	86	68	86	68	88	72	86	68
25	88	72	82	58	86	72	88	72	86	68	86	68	88	72	86	68
26	88	72	82	58	86	72	88	72	86	68	86	68	88	72	86	68
27	88	72	82	58	86	72	88	72	86	68	86	68	88	72	86	68
28	88	72	82	58	86	72	88	72	86	68	86	68	88	72	86	68
29	88	72	82	58	86	72	88	72	86	68	86	68	88	72	86	68
30	88	72	82	58	86	72	88	72	86	68	86	68	88	72	86	68
31	88	72	82	58	86	72	88	72	86	68	86	68	88	72	86	68
Means	86.0	66.2	80.2°	62.8	86.0	70.6	86.0	67.2	88.1	64.6	89.9	63.3	88.7	67.0	87.1	63.6

Date.	Illinois.															
	Springfield.		Winnebago.													
	Max.	Min.	Max.	Min.												
1	88	72	86	68												
2	86	70	84	66												
3	88	72	86	68												
4	86	70	84	66												
5	86	70	84	66												
6	88	72	86	68												
7	88	72	86	68												
8	88	72	86	68												
9	88	72	86	68												
10	88	72	86	68												
11	88	72	86	68												
12	88	72	86	68												
13	88	72	86	68												
14	88	72	86	68												
15	88	72	86	68												
16	88	72	86	68												
17	88	72	86	68												
18	88	72	86	68												
19	88	72	86	68												
20	88	72	86	68												
21	88	72	86	68												
22	88	72	86	68												
23	88	72	86	68												
24	88	72	86	68												
25	88	72	86	68												
26	88	72	86	68												
27	88	72	86	68												
28	88	72	86	68												
29	88	72	86	68												
30	88	72	86	68												
31	88	72	86	68												
Means	86.8	70.9	86.3	67.2												

Climatological Data for July, 1910.

DISTRICT No. 6, MISSOURI VALLEY.

MONTROSE W. HAYES, District Editor.

GENERAL SUMMARY.

There were no barometric depressions that made any marked or general impression on the weather over the whole or even a considerable portion of the district during the month. Such changes as occurred were influenced to a large extent by areas of atmospheric pressure that were high in a comparative sense, but usually lacked the intensity and force necessary to produce cool weather. As a result the mean temperature was above the normal over most of the drainage area and the precipitation was deficient and geographically was rather irregularly distributed. In Missouri and Iowa, and probably in the eastern counties of Kansas and Nebraska, the amount of sunshine did not vary much from the normal, but in the remainder of the watershed there was very little, if any, cloudy weather that prevailed for any considerable length of time, and the amount of bright sunshine was notably in excess of the customary July average.

TEMPERATURE.

The 3,000-foot contour, which in a general way may be outlined as running from northeastern Montana just to the east of the Black Hills in South Dakota, thence southward, appears to have been the dividing line between a decided temperature excess over the high country to the westward, and a moderate excess over the territory lying at a lesser elevation than 3,000 feet. There was a marked absence of abrupt temperature changes. The daily thermometer readings were somewhat more uniform than usual, and the changes preceding the two waves of hot weather that affected most of the district, and the several moderately cool periods that occurred locally, were gradual. Low atmospheric pressure over eastern Montana, northeastern Wyoming, and the Dakotas on the 14th and 15th was accompanied by generally fair weather, southerly winds, and high day temperatures—the highest of the month. In a section comprising northeastern Montana and the western portions of the Dakotas the temperatures were especially high on these two days and exceeded 110° at several stations. The extreme was 116° at Cottonwood, in the Cheyenne River Valley, South Dakota. This reading was the highest recorded in the district. The warmest weather in the section that may be termed the southern half of the district, and comprising the valleys of the Platte and Kansas rivers and the Missouri Valley to the south of the South Dakota line, was on the 26-27th. It was coincident with high atmospheric pressure over the Gulf States; the winds were from the south and southwest and the day temperatures exceeded 100° at numerous stations. The periods of cool weather were not well marked; they were of short duration and individually covered limited areas only. Each of them was caused by some of the stronger and better formed high pressure areas that either crossed a portion of the district or passed close enough to its confines to make its influence felt. There were no temperatures that were low enough to be considered unusual for July, although in a few of the mountainous localities of Montana, Wyoming, and Colorado, where topographical conditions are favorable for cold weather at almost any season, there were some readings below the freezing point. The greatest excess in temperature was in that portion of the plains country immediately to the east of the mountains. In the northwestern quarter of Kansas, in North Dakota, and in the northern half of South Dakota there was also a marked excess. From these regions eastward and southeastward the excess was small, and at numerous points close to the Missouri River from Yankton, S. Dak., southward there were slight deficiencies. Effectively the temperature excess in the high plateau and foothill country of the western part of the district was much greater than was indicated by the July values, for June also was an abnormally hot month and the long period during which the thermometer readings were, with short and infrequent respites, above the seasonal average, has been felt in a detrimental way.

PRECIPITATION.

In restricted sections of the mountainous country of Wyoming, Colorado, and western South Dakota, where thundershowers were heavy locally, there was more than the normal amount of rain. Also along or close to the Missouri River, from southern South Dakota to St. Louis, there were limited areas over which there was an excess of rain. In all of the remaining territory, which embraces a very large part of the district, there was insufficient precipitation. In the lower or eastern portion of the district most of the rain fell during the first half of the month. In the western portion most of it fell in the latter half. There were no very general rainy periods. With few exceptions, the precipitation was in the form of thundershowers, which occurred frequently, but apparently were confined to small areas and in most cases were light. There were, however, a few noteworthy exceptions to this, and at points in the spots where there was more than the normal amount of precipitation the showers were excessive in amount. The heaviest monthly fall was 10.85 inches at Sublett, Mo.

RIVERS.

All the rivers were very low. In the elevated portion of the watershed, both in the mountains and the Plateau country, some of the streams were lower than ever known before. The low stages in the headwaters were caused partly by the continued lack of rain through June and July, and partly by the very early disappearance of the mountain snows. There were a few rapid rises of short duration in some of the water courses between the 2,000 and the 3,000 foot contours, caused by local thundershowers, but their effects were very limited in extent. Rains on the 14th and 15th caused a rise in the Missouri, from western Iowa to the mouth. The rise in the main river was unimportant, but in the smaller tributary streams it was sudden and decided and was damaging to crops, especially in the counties of Saline, Charitan, Howard, and Boone, in Missouri. With these exceptions the Missouri was unusually low. At the end of the month the gage reading at Hermann, Mo. (103 miles from the mouth of the river), was 6.0 feet, the lowest July reading since 1897, when a stage of 4.9 feet was reached. At St. Louis the Mississippi reached its lowest stage (6.6 feet) on the 26th and 27th. The records for St. Louis extend back to and include 1861; they show no July stage lower than 6.6 feet, and only once, in July, 1863, was this low reading equaled. In the latter days of the month the lack of water was beginning to be felt seriously by navigation interests; especially was this the case in the Mississippi, for, comparatively, the Missouri River stages were not so low.

MISCELLANEOUS.

Local electrical and wind storms of more than ordinary violence occurred as follows: At Watertown, S. Dak., on the 5th, in which one man was killed when a circus tent was blown down; at Columbia, Mo., on the 9th, when the wind attained a velocity of 58 miles per hour; near Pierre, S. Dak., on the 13th, and at St. Louis, Mo., on the 25th, when the wind attained a velocity of 58 miles per hour. The storm near Pierre had decided tornadic characteristics.

In Montana, Wyoming, and the Dakotas the dry weather was very detrimental to native grasses. Water for irrigation, and in some localities for stock, was growing scarce at the end of the month. In the Dakotas fires were numerous, both in the prairie country and in the Black Hills. Railroads in South Dakota dependent upon windmill pumps for their water supply experienced considerable trouble; there was a lack of wind as well as a lack of water. In Nebraska the hot, dry weather was very unfavorable for the growth of vegetation, but was advantageous for thrashing and haying. Conditions in Kansas appear not to have been very unfavorable until the 23d, when hot winds began and dried the ground rapidly, injuring vegetation. Copious rains are needed in Iowa to revive pastures and to assure the development of other vegetation.

TABLE 1.—*Climatological data for July, 1910. District No. 6, Missouri Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Wyoming.																				
Barnum	Johnson	5,500	5	.....	.....	.....	.....	.....	.....	.....	0.84	.....	0.42	0.0	4	17	14	0	w.	Thomas Freegaurd.
Basin	Big Horn	3,862	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	O. J. Robertson.
Bennett	Carbon		2	.....	.....	.....	.....	.....	.....	.....	1.08	.....	0.80	0.0	4	21	10	0	w.	Chas. C. Young.
Big Creek Station[1]	...do	.....	.....	63.8	.....	98	17	34	10	56	0.90	.....	0.70	0.0	2	.....	.....	.....	.....	U. S. Forest Service.
Burns	Laramie		1	70.8	.....	98	27	46	6	41	0.45	.....	0.35	0.0	2	.....	.....	.....	nw.	Henry D. Colburn.
Cheyenne	...do	6,088	39	69.2	+ 1.8	95	26	43	10	40	1.32	− 0.67	0.34	0.0	11	10	18	3	nw.	U. S. Weather Bureau.
Chugwater	...do	5,282	9	68.9	+ 3.2	96	26	35	11	48	0.61	− 0.76	0.32	0.0	5	9	20	2	w.	George Milne.
Clark	Big Horn	4,320	4	73.9	.....	102	14	47	9	42	0.81	.....	0.26	0.0	8	15	15	1	sw.	Chas. A. C. Snow.
Cody	...do	5,000	3	71.0[e]	.....	100[e]	14	41[e]	10	45[e]	0.46	.....	0.18[e]	0.0	3	15[e]	11[e]	0[e]	w.	F. A. Fish.
Crystal Lake	Laramie	6,900	1	66.0	.....	92	26†	36	10	50	1.22	.....	0.39	0.0	4	2	25	4	se.	Cheyenne City Engineer.
Dome Lake	Sheridan	8,821	2	55.5	.....	80	14	34	10†	36	0.15	.....	0.06	0.0	8	13	14	4	sw.	Chas. Hidlay.
Douglas	Converse	4,793	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry C. Miller.
Dubois	Fremont	6,909	3	61.4	.....	91	14	34	17	51	0.53	.....	0.16	0.0	5	16	14	1	w.	Dr. F. H. Welty.
Eaton's Ranch[e]	Sheridan	4,600	5	66.8	.....	100	14	44	8†	37	0.79	.....	0.25	0.0	7	18	10	0	n.	F. A. Eaton.
Echeta	Crook	4,200	1	.....	.....	.....	.....	.....	.....	.....	0.90	.....	0.35	0.0	3	28	2	1	s.	M. R. Hunter.
Elk Mountain	Carbon		5	.....	.....	.....	.....	.....	.....	.....	2.28	.....	1.75	0.0	7	.....	.....	.....	.....	Wm. Richardson.
Encampment[1]	...do	7,322	1	65.3	.....	89	25	41	9	42	1.12	.....	0.60	0.0	4	.....	.....	.....	sw.	U. S. Forest Service.
Ervay	Natrona		1	66.0	.....	92	14	38	5†	48	0.57	.....	0.28	0.0	6	25	3	3	sw.	Frank Jameson.
Fort Laramie	Laramie	4,270	32	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John Hunton.
Fox Creek Station	Albany	9,015	.....	52.6	.....	81	26	22	6	54	1.97	.....	0.44	0.0	15	14	17	0	w.	U. S. Forest Service.
Gillette	Crook	4,546	4	74.1	.....	102	14†	46	9	45	1.43	.....	0.39	0.0	6	14	13	4	.....	S. D. Perry.
Hunters' Station	Johnson	8,000	4	58.7	.....	86	14	33	10	42	1.91	.....	0.64	0.0	10	18	9	4	w.	U. S. Forest Service.
Hyattville	Big Horn	4,632	11	70.4	+ 0.7	101	14	45	5†	49	.....	.....	.....	0.0	1	22	7	2	w.	Wm. Booth.
Jireh	Converse	5,050	.....	.....	.....	.....	.....	.....	.....	.....	0.90	.....	0.40	0.0	8	24	4	3	se.	P. L. Ford.
Kirtley	...do		6	69.3	+ 3.8	97	15†	38	10	46	2.20	+ 0.68	1.69	0.0	5	23	6	2	s.	D. M. Zum Brunnen.
Kirwin	Big Horn	9,187	2	54.4	.....	76	14	30	6	36	1.50	.....	0.40	0.0	11	7	23	1	w.	C. L. Tewksbury.
Knowles	Crook		1	.....	.....	.....	.....	.....	.....	.....	0.66	.....	0.21	0.0	5	.....	.....	.....	.....	G. A. Knowles.
Lander	Fremont	5,372	18	69.2	+ 1.2	94	25	42	10	46	0.67	− 0.19	0.31	0.0	10	12	17	2	sw.	U. S. Weather Bureau.
Laramie	Albany	7,188	19	64.0	+ 1.6	89	26†	39	10	48	1.97	+ 0.40	0.61	0.0	10	17	11	3	s.	University of Wyoming.
Leo	...do	6,878	9	67.1	+ 3.9	92	25†	39	24	50	0.36	− 0.17	0.36	0.0	1	16	14	1	w.	C. A. Cowdin.
Lolobama Ranch	Big Horn	7,052	6	60.2	+ 3.8	88	13	30	12	55	2.02	+ 0.50	0.44	0.0	10	10	21	0	w.	Mary E. Painter.
Lovell	...do	3,825	5	71.6	+ 2.1	102	14	43	10	45	0.39	.....	0.25	0.0	4	16	11	4	w.	R. Fred Harrison.
Lusk	Converse	5,007	20	69.2	+ 1.0	95	14	38	9	46	0.14	.....	0.12	0.0	2	.....	.....	.....	.....	D. E. Goddard.
Manville	...do	5,050	1	.....	.....	.....	.....	.....	.....	.....	0.81	.....	0.51	0.0	6	26	4	1	se.	C. A. Sherman.
Moorcroft	Crook	4,111	7	72.0	+ 2.9	105	18	35	10	57	0.51	− 0.89	0.20	0.0	7	16	10	5	.....	James K. Somers.
Moore[b]	Albany	6,000	9	68.3	+ 4.1	95	14	35	11	50	2.38	+ 0.88	1.01	0.0	10	7	17	5	w.	Edwin Moore.
Newcastle	Weston	4,319	3	75.5	.....	102	15†	45	10	43	1.24	.....	0.41	0.0	4	17	14	0	nw.	Dr. S. W. Johnson.
Pathfinder	Natrona	5,735	4	73.0	+ 2.8	99	20	46	9	43	1.33	+ 0.35	0.57	0.0	7	25	6	0	sw.	U. S. Reclamation Service.
Phillips	Laramie	4,900	7	73.4	+ 5.9	99	25	43	1†	46	1.53	− 0.70	0.65	0.0	8	15	11	5	w.	Mrs. Arthur Rugg.
Powell	Big Horn	4,376	3	72.4	.....	101	14	47	9	44	0.64	.....	0.49	0.0	5	20	11	0	w.	U. S. Reclamation Service.
Rawlins	Carbon	6,748	8	69.2	+ 2.6	93	25	39	9	43	1.03	− 0.08	0.38	0.0	8	16	14	1	w.	E. J. Ehrenfeld.
Riverton	Fremont	4,960	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. Nelson, jr.
Saratoga	Carbon	6,785	12	67.2	+ 1.4	93	25	40	6	49	0.76	− 0.23	0.20	0.0	7	15	14	2	e.	Saratoga & Enc'pm'nt Ry.
Sheridan	Sheridan	3,790	15	70.2	+ 2.7	102	14	40	10	51	0.66	− 0.12	0.30	0.0	9	8	14	9	nw.	U. S. Weather Bureau.
Shoshone Dam	Big Horn	5,385	4	71.5	.....	100	14	48	9	38	2.17	.....	0.83	0.0	6	18[a]	11[a]	1[a]	w.	U. S. Reclamation Service.
Soldiers' Home	Johnson	4,635	18	72.2	+ 3.9	94	14†	44	9	39	1.07	− 0.04	0.47	0.0	7	8	23	0	nw.	Geo. L. Courtney.
South Pass City	Fremont	7,873	8	58.2	.....	83	14†	26	6	49	1.26	.....	0.55	0.0	10	10	14	7	sw.	John Sherlock.
Thermopolis	...do	4,350	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. L. Duhig.
Upton	Weston		1	.....	.....	.....	.....	.....	.....	.....	3.59	.....	1.70	0.0	5	10	16	5	sw.	C. E. McPherren.
Valley	Big Horn	6,300	1	.....	.....	.....	.....	.....	.....	.....	1.05	.....	0.36	0.0	7	17	13	1	w.	Jas. L. McLaughlin.
Verona	Sheridan		1	.....	.....	.....	.....	.....	.....	.....	0.56	.....	0.26	0.0	3	5	26	0	se.	O. A. Roode.
Wiant's Ranch	Carbon	7,400	.....	.....	.....	.....	.....	.....	.....	.....	1.04	.....	0.28	0.0	6	3	23	5	sw.	Ira G. Wiant.
Wiley	Big Horn	5,375	1	69.0	.....	98	14	32	8	45	0.97	.....	0.35	0.0	5	16	6	9	w.	C. D. Marshall.
Wyncote	Laramie	4,207	3	72.6	.....	98	26	46	6†	47	1.15	.....	0.86	0.0	6	27	3	1	e.	U. S. Reclamation Service.
Yellowstone Park	Yellowship Park	6,200	22	63.0	+ 1.5	87	14	39	10	39	1.72	+ 0.56	0.86	0.0	12	11	17	3	sw.	U. S. Weather Bureau.
(1) Fountain Hotel	...do	7,220	4	58.0	.....	87	18	27	6	54	0.90	.....	0.34	0.0	5	21	8	2	s.	U. S. Army.
(2) Grand Canyon	...do	7,900	3	56.4	.....	82	14	29	6	47	1.51	.....	0.45	0.0	6	21	1	9	w.	Do.
(3) Lake Hotel	...do	7,733	6	56.4	.....	84	18†	30	6	44	2.04	.....	0.51	0.0	7	15	5	11	s.	Do.
(4) Norris	...do	7,525	6	54.8	.....	80	14	28	6†	47	2.06	.....	0.88	0.0	6	16	7	8	w.	Do.
(5) Riverside	...do	6,500	4	59.9	.....	87	17	27	6	53	0.74	.....	0.55	0.0	2	15	12	4	sw.	Do.
(6) Soda Butte	...do	7,000	5	58.3	.....	88	14	28	10	52	1.70	.....	0.85	0.0	8	23	2	6	sw.	Do.
(7) Sylvan Pass	...do	7,000	3	59.0	.....	89	14	30	6	52	1.20	.....	0.45	0.0	7	22	9	0	w.	Do.
(8) Thumb	...do	7,772	4	58.0	.....	84	18†	31	24	48	0.49	.....	0.25	0.0	2	13	16	2	sw.	Do.
(9) Tower Falls	...do	6,250	1	61.6	.....	93	4	30	7†	54	2.45	.....	1.35	0.0	10	21	0	10	ne.	Do.
(10) Upper Gey. Basin	...do	7,395	6	59.2	.....	87	14	31	6	46	0.94	.....	0.35	0.0	5	19	6	6	sw.	Do.
Montana.																				
Adams	Dawson		2	70.8	.....	105	14	42	23	43	1.15	.....	0.45	0.0	6	17	11	3	nw.	W. B. Ennis.
Adel	Cascade	5,200	11	64.5	+ 3.9	97	14	32	9	49	1.04	− 0.95	0.60	0.0	6	15	6	10	w.	Bessie F. Burch.
Agricultural College	Gallatin	4,700	12	66.3	+ 2.7	92	14†	39	9	42	0.73	− 0.49	0.25	0.0	7	.....	.....	.....	.....	E. Burke.
Augusta	Lewis & Clark	4,071	12	62.5	+ 0.4	92	13	35	27	50	1.20	− 0.77	0.46	0.0	4	25	4	2	w.	C. C. Covington.
Babb	Teton	4,461	4	61.0	.....	90	14†	30	27	50	0.62	.....	0.45	0.0	4	24	0	7	sw.	U. S. Reclamation Service.
Bald Butte	Lewis & Clark	6,500	1	.....	.....	.....	.....	.....	.....	.....	1.13	.....	0.47	0.0	7	19	5	7	.....	Matt W. Alderson.
Big Timber	Sweetgrass	4,072	5	70.5	.....	97	14	41	9†	51	0.95	.....	0.35	0.0	6	20	8	3	w.	F. A. Severance.
Big Timber Creek	...do	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.87	.....	0.25	0.0	11	16	15	0	w.	J. T. Mjolsness.
Billings	Yellowstone	3,115	15	72.2	+ 0.6	106[a]	13	42	9	54[a]	0.65	− 0.22	0.30	0.0	4	.....	.....	.....	.....	U. S. Weather Bureau.
Boulder Nursery	Jefferson	4,920	14	.....	.....	.....	.....	.....	.....	.....	0.58	− 0.54	0.22	0.0	6	.....	.....	.....	.....	U. S. Forest Service.
Bowen	Beaverhead	6,060	4	57.4	.....	92	14	27	28	59	0.67	.....	0.31	0.0	7	18	9	4	.....	B. B. Lawrence.
Bridger	Carbon	3,664	2	70.5	.....	102	14	41	12	54	0.23	.....	0.23	0.0	1	9	18	4	n.	L. E. Gard.
Broadview Exp. Station	Yellowstone		4	70.0	.....	106	14	34	9	52	1.12	.....	1.00	0.0	4	11	20	0	e.	Dr. W. X. Sudduth.
Busby	Rosebud		5	72.4	.....	106	14	37	10	53	1.20	.....	0.82	0.0	8	7	24	0	w.	C. A. Linscheid.
Busteed	Sweetgrass		2	69.1	.....	101	14	40	10†	46	0.75	.....	0.21	0.0	8	16	13	2	w.	Thos. H. Busteed.
Cabin Creek	Beaverhead	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.67	.....	0.28	0.0	5	19	0	12	w.	W. J. Crowell.
Canyon Ferry	Lewis & Clark	3,644	12	69.7	+ 1.7	98	14	41	9	46	0.80	− 0.66	0.49	0.0	5	20	11	0	nw.	A. C. Pratt.
Cascade	Cascade	3,361	5	70.2	.....	98	14†	39	27	54	1.01	.....	0.54	0.0	7	23	7	1	sw.	E. E. James.
Chessman Reservoir	Lewis & Clark	5,275	2	60.9	.....	86	14	33	9	40	1.05	.....	0.50	0.0	6	26	3	2	.....	Chas. D. Schmidt.
Chester	Chouteau	3,140	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Great Nor. Exp. Station.
Chinook	...do	2,502	10	74.0[f]	+ 3.8	105[f]	18	42[f]	11	47[f]	1.05	− 0.38	0.64	0.0	6	22	7	2	w.	Thos. O'Hanlon Co.
Chouteau	Teton	3,810	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Davidson.
Clear Creek	Chouteau		4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cortez Sedgwick.
Clemons	Lewis & Clark	4,672	1	.....	.....	.....	.....	.....	.....	.....	1.22	.....	0.87	0.0	5	14	13	4	w.	Frank Eberl.
Clyde Park	Park	.....	1	.....	.....	.....	.....	.....	.....	.....	0.75	.....	0.20	0.0	6	19[a]	10[a]	1[a]	.....	L. B. Marquis, M.D.
Copper	Meagher		5	.....	.....	.....	.....	.....	.....	.....	0.70	.....	0.30	0.0	7	19	12	0	w.	Orville Harris.
Crow Agency	Rosebud	3,041	28	72.6	+ 1.6	104	4	41	10	58	0.48	− 0.72	0.23	0.0	3	20	11	0	nw.	F. E. Server.
Culbertson	Valley	1,927	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. H. Coulter.
Cut Bank	Teton	3,700	12	67.4	+ 6.2	95	17	38	28	46	0.54	− 1.18	0.21	0.0	3	28	3	0	w.	Chas. N. Thomas.
Decker	Rosebud	3,400	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Adam Anderson.
Delpine	Meagher	5,000	1	.....	.....	.....	.....	.....	.....	.....	0.77	.....	0.40	0.0	9	4	25	2	w.	T. L. Holliday.

TABLE 1.—*Climatological data for July, 1910. District No. 6*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Montana—Cont'd.																			
Denton	Fergus		2																P. T. Griesenauer.
Dillon	Beaverhead	5,147	13	68.9	+ 4.7	94	15	37	12	52	0.35	− 0.79	0.22	0.0	6	14	17	0	sw.	J. E. Monroe.
Dirty Creek	Meagher	6,000	1								0.74		0.20	0.0	5	22	6	3	w.	Lewis Cameron.
Dry Creek	Broadwater	5,500	1								0.68		0.30	0.0	7	13	18	0	sw.	J. C. Stuart.
Dry Wolf Camp	Cascade	6,000	1								1.14		0.75	0.0	6	16	11	4	sw.	Mrs. R. J. Eveleth.
East Gallatin River	Gallatin	6,000	1								0.83		0.25	0.0	6	22	7	2	w.	John Eberhart.
Ekalaka	Custer		10	75.0	+ 5.4	108	14	42	12	46	0.02		0.02	0.0	1	28	3	0	w.	Wm. Freese.
Elkhorn	Jefferson	6,576	1								0.81		0.19	0.0	10	16	8	7	w.	James Heagan.
Evans	Cascade	4,900	3																	H. Thrasher.
Fallon	Custer	2,208	6	73.8[d]		108[b]	14	44	12	52[b]	1.39		0.66	0.0	5	16	15	0	w.	Mrs. A. C. Gifford.
Family‖	Teton	3,950	1	66.8		99[b]	16	34[b]	23	53[b]	0.22		0.22	0.0	1	21[b]	8[b]	0[b]	w.	U. S. Reclamation Service.
Fish Creek**‖	Silver Bow	8,500	1	59.0		80	13†	34	9	38	1.04		0.30	0.0	5				w.	O. B. Tilton.
Fish Tail Creek	Carbon	5,000	1								0.96		0.23	0.0	8	25	4	2	w.	O. E. Haskin.
Flathead Creek	Gallatin	6,000	1								1.06		0.34	0.0	8	11	16	4	nw.	L. G. Brown.
Forsyth	Rosebud	2,514	4	74.9[d]		108[c]	14	44[d]	10	53[d]	0.35[a]		0.25	0.0	2	12[c]	13[c]	3[c]	w.	J. M. Patterson, jr.
Fort Benton	Chouteau	2,630	30	71.5	+ 1.8	98	16†	48	9	41	0.75	− 0.88	0.45	0.0	2	23	7	1		Jere Sullivan.
Fort Shaw	Cascade	3,500	22	68.8[d]	+ 1.6	96[d]	14	41[d]	27	48[d]	1.66	+ 0.55	0.86	0.0	2	22[d]	5[d]	0[d]		U. S. Reclamation Service.
Fort W. H. Harrison‖‖	Lewis & Clark	4,004	6	69.6		95	13†	40	9	31						27	4	0	e.	Post Hospital.
Foster	Yellowstone		1	72.9		108	14	42	10	56	0.37		0.27	0.0	3	19	11	1	w.	E. K. Bowman.
Garneil	Fergus	5,500	1	65.8		95	14	34	9	48	0.97		0.40	0.0	5	12	13	4	se.	Thos. E. Scally.
Glendive	Dawson	2,069	20	75.9	+ 3.6	111	14	47	12	48	1.74	− 0.04	1.10	0.0	5	25	5	1	se.	W. B. Walker.
Goldbutte	Chouteau		3	66.9		95	14†	41	11†	45	1.19		0.62	0.0	4	21	8	2	w.	J. T. Berthelote.
Graham	Custer		4	74.9[c]		106[c]	14	40[c]	10	51[c]	0.78		0.28	0.0	6	19[c]	5[c]	0[c]	nw.	J. S. Rue.
Grayling	Gallatin	6,700	4	57.8		86[a]	16	26[a]	6	52[a]	1.16		0.76	0.0	5	14[a]	13[a]	3[a]	sw.	P. Kerzenmacher.
Great Falls	Cascade	3,350	19	70.6	+ 2.6	98	14	45	9	38	1.33	− 0.31	0.53	0.0	7	20	9	2	sw.	S. H. Bauman.
Half Moon Pass	Fergus	6,500	1								1.21		0.70	0.0	4	2	29	0	w.	Thos. Stigen.
Half Way House	Broadwater	6,000	1								0.79		0.32	0.0	7	23	8	0	ne.	Gordon Deans.
Harlowton	Meagher	4,165	2	65.4[d]		93[d]	17	37[d]	10†	50	0.67		0.49	0.0	2				w.	Joseph Muir.
Havre	Chouteau	2,505	30	70.6	+ 2.5	102	17	44	27	45	0.84	− 1.08	0.40	0.0	5	20	9	2	nw.	U. S. Weather Bureau.
Helena	Lewis & Clark	4,110	30	68.6	+ 2.0	93	17	41	9	38	0.61	− 0.46	0.22	0.0	6	12	14	5	w.	Do.
Highwood	Chouteau		3								1.03		0.55	0.0	6	19	10	2	sw.	W. S. McCord.
Home Park	Madison		5								0.55		0.24	0.0	3	25	6	0	w.	H. L. Miller.
Huntley	Yellowstone	3,014	4	72.6		108	14	40	5	55	0.00		0.00	0.0	0	18	12	1	ne.	U. S. Reclamation Service.
Jones Canyon	Gallatin	6,800	1								1.17		0.37	0.0	10	8	17	6	w.	Jas. McCune.
Jordon	Dawson		5	76.1		107	14	44	24	52	0.39		0.25	0.0	4	25	0	6	nw.	W. C. Henderson.
Lewistown	Fergus	4,010	13	66.7	+ 2.3	98	17	37	9	47	2.20	− 0.29	1.07	0.0	7	17	14	0	w.	W. W. Watson.
Livingston	Park	4,488	13	70.2[b]	+ 2.1	100[b]	14	38[b]	9	48	0.57	− 0.54	0.19	0.0	7	11[b]	9[b]	3[b]	sw.	Lewis Terwilliger.
Lone Tree	Chouteau		5	72.9[b]		102	14†	47[d]	12	43	0.73		0.33	0.0	6	25	6	0	w.	E. Wilson.
Lost Horse Creek	Meagher	5,800	1								2.15		0.98	0.0	9	18	10	3	w.	C. M. Mason.
Malta	Valley	2,240	3	72.4		103	14	45	11	43	1.15		0.30	0.0	7	24	3	4	w.	U. S. Reclamation Service.
Meadow Creek	Madison	6,700	1																	F. E. Parent.
Melstone	Fergus	2,903	1								0.77		0.63	0.0	4					E. J. Parkinson.
Mildred	Custer		1								1.69		1.46	0.0	4	15	16	0	se.	Leon B. Clarke.
Miles City	do	2,371	19	76.8	+ 3.9	108	14	51	10	44	0.93	− 0.44	0.59	0.0	4	20	10	1	ne.	U. S. Weather Bureau.
Moore	Fergus		3								1.56		0.78	0.0	5	24	6	1	w.	Clyde Grove.
Norris	Madison	4,845	4	71.2		99	14	48	9	38	0.88		0.27	0.0	7	15	7	9	s.	Madison River Power Co.
Nye	Sweetgrass		2	61.3		89	14†	33	9	48	1.11		0.31	0.0	9	23	5	3	sw.	F. L. Bryant.
Olsen Creek	Jefferson	6,345	1								1.04		0.35	0.0	7	27	2	2	w.	Robt. Olsen.
Pipestone Pass	do	7,000	1								1.14		0.36	0.0	9	17	14	0	sw.	Mrs. Theola Kiermeyer.
Poplar	Valley	2,020	25	72.5	+ 2.7	106	14	45	12	48	0.74	− 0.85	0.45	0.0	2	26	4	1	ne.	H. M. Cozier.
Raymond	Teton	4,260	5	69.1		96	14	40	8	40	0.95		0.24	0.0	5	19	11	1	w.	W. H. Campbell.
Red Lodge	Carbon	5,548	10	64.4	+ 2.8	91	3†	37	9	46	1.37	+ 0.14	0.40	0.0	7	10	19	2	ne.	I. A. Draper.
Reese Creek	Gallatin	5,000	1								0.59		0.22	0.0	4					Henry Cramer.
Renova	Jefferson	4,383	11	66.0	+ 0.2	97[a]	14	37[a]	10	52[a]	0.51	− 0.60	0.14	0.0	7	18[a]	11[a]	1[a]	sw.	F. B. Elmer.
Rimini	Lewis & Clark	7,900	2																	Milo Brooks.
Ryegate	Yellowstone	3,640	1	69.5		103	14	39	12	50	0.44		0.22	0.0	3	24	5	2		H. W. Scherfenberg.
Sedan	Gallatin	3,155	2																	Asa Hennes.
Springbrook	Dawson		9	73.6	+ 6.8	112	14	45	9	46	1.28		0.63	0.0	4	14	15	2	sw.	Mrs. H. L. Miller.
Stearns	Lewis & Clark	4,500	1								2.01		1.10	0.0	3	15	1	15		J. W. Hardgrove.
Three Forks	Gallatin	4,066		68.0		100	14	40	13†	56	0.68		0.25	0.0	6	26	3	2	sw.	A. A. Adams
Toknaf	Dawson	2,050	5	72.3		108	14†	44	12	53	1.14		0.41	0.0	5	23	7	1		U. S. Reclamation Service.
Townsend	Broadwater	3,790	1								0.31									River Observer.
Trail Creek	Park	6,000	1								0.89		0.41	0.0	6	20	11	0	w.	Andrew Wiedenbauer.
Utica	Fergus	5,000	16					41	11†		1.23	− 0.94	0.38	0.0	8	21	10	0	w.	P. W. Korell.
Valentine	do		4	71.6		106	14	41	9	51	0.61		0.24	0.0	5	27	3	1	w.	B. M. Bean.
Virginia City	Madison	5,880	22	66.7	+ 2.1	91	14	41	9	38	1.65	+ 0.28	0.53	0.0	8	19	11	1	e.	Francis Mailand.
Wall Rock Mountain	Broadwater	5,600	1								1.10		0.35	0.0	9	20	11	0		D. L. Doig.
Warm Springs Creek	Madison	7,500	1																	M. D. Lytle.
Willow Creek	Park	9,000									0.45		0.31	0.0	2	8	23	0	w.	John Topp.
Wolf Creek	Lewis & Clark	4,000	5	71.9		102	14	40	9	46	1.17		0.26	0.0	8	18	4	9	w.	A. W. Verharen.
Wolf Point	Valley	1,995									0.75			0.0						River Observer.
Woodville	Jefferson	6,376	1								0.66		0.13	0.0	10	17	14	0	sw.	Anna Kinman.
North Dakota.																				
Aplin	Oliver		3	71.8		105	15	44	10	44	2.76		1.49	0.0	7	22	9	0	nw.	J. B. Hagelbarger.
Beach	Billings	2,759	3	69.8		104	15	41	12	45	2.00		0.77	0.0	7	20	11	0	nw.	D. J. Steiner.
Berthold Agency	McLean	2,082	13	70.2	+ 0.8	107[b]	14	40[b]	28†	50[b]	1.57	− 0.51	0.57	0.0	8	27	3	1	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	35	71.8	+ 1.6	107	15	46	26	45	0.93	− 1.21	0.39	0.0	8	20	11	0	nw.	U. S. Weather Bureau.
Broncho	Mercer		2	70.4		107	15	45	10†	41	1.38		1.16	0.0	5	4	26	1	nw.	E. M. Walker.
Buford	Williams	1,944	4	70.8		103	15	44	11	43	1.05		0.40	0.0	4	18	0	13	se.	G. O. Sanford.
Coal Harbor	McLean	1,901	13	71.2	+ 3.4	105	14	44	12	42	2.55	+ 0.07	1.25	0.0	6	22	0	9	w.	F. H. Childs.
Dickinson	Stark	2,453	17	70.1	+ 2.1	107	15	41	12	42	2.07	− 0.11	1.28	0.0	6	17	9	5	nw.	L. R. Waldron.
Edgeley	Lamoure	1,468	8	71.4	+ 3.3	105	15	44	30	47	0.60	− 2.24	0.45	0.0	4	14	10	7	nw.	O. A. Thompson.
Epping	Williams		2								1.72		0.41	0.0	7	15	11	5	nw.	M. E. Ugan.
Fullerton	Dickey	1,439	11	71.3	+ 3.8	103	15	44	12	47	0.51	− 2.62	0.29	0.0	3	25	6	0	s.	F. O. Alin.
Haley	Bowman		2	79.4		109	15	58	7†	31	1.20		0.70	0.0	2	21	8	2	nw.	A. M. Oberchain.
Hettinger	Adams	2,253	3																	F. E. Ellickson.
Howard	Williams	2,275	3	67.8		99	14	37	29	44	2.42		0.82	0.0	6	9	16	6	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	22	68.0	− 0.6	104	15	40	9	49	0.83	− 1.76	0.20	0.0	7	12	19	0	ne.	L. B. Baldwin.
Lamoine	Kidder		2	68.1		100	14†	40	28	45	3.80		2.35	0.0	6	20	10	1	ne.	E. V. Virgin.
Lamoure	Lamoure	1,307	3								0.78		0.70	0.0	2					E. O. Ellison.
McHenry	Eddy	1,509	1	68.8		95	14	42	29	40	1.30		0.59	0.0	5	16	13	2	w.	John Knox.
Manfred	Wells	1,605	8	68.6		100	14	44	30	45	2.09		0.78	0.0	5	18	12	1	nw.	P. B. Anderson.
Marmarth	Bowman		2								0.77		0.51	0.0	5	21	9	1	se.	S. P. Grane.
Marstonmoor	Stutsman		2	71.2		100[d]	15	33[a]	12	55[d]	3.01		2.56	0.0	4	18	13	0	ne.	H. H. McCumber.
Medora	Billings	2,225	13	73.1	+ 2.8	114	15	40	9†	56	1.14	− 0.88	0.62	0.0	4	19	7	5	e.	J. W. Hesser.
Melville	Foster	1,590	12	71.3[d]	+ 4.4	110[d]	15	45[d]	9†	47[d]	2.57	− 0.29	1.50	0.0	5				nw.	J. P. Kidder.
Mott	Hettinger		3	69.8		107	15	36	11	51	2.10		1.49	0.0	6	18	8	5	nw.	O. H. Opland.

TABLE 1.—*Climatological data for July, 1910. District No. 6*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	
North Dakota—Cont'd.																			
Napoleon	Logan	1,955	18	70.0	+ 1.6	108	15	37	12	52	0.99	− 1.53	0.54	0.0	6	21	5	5	se.	C. J. Hoof.
New England	Hettinger	2,400	14	70.0	+ 1.6	108	14	38	12	64	T.	− 1.75	T.	0.0	0				s.	W. C. McKenzie.
New Salem	Morton	2,163	3	72.3	.....	106	15	45	28	45	1.07	.....	0.42	0.0	6	19	11	1	se.	J. Christianson.
Orange	Adams		3	71.6	.....	108	15	34	12	48	0.18	.....	0.09	0.0	3	22	9	0	nw.	J. E. Goforth.
Palermo	Ward	2,200	6																	T. A. McCann.
Schafer	McKenzie		1	71.6	.....	102	14	45	10	41	1.90	.....	1.17	0.0	6	22	6	3	w.	F. L. Clark.
Steele	Kidder	1,857	14																	B. C. Smith.
Washburn	McLean	1,731	6	72.0	.....	109	15	47	12†	46	3.22	.....	1.94	0.0	6	13	18	0	w.	W. R. Peterson.
Williston	Williams	1,875	30	69.5	+ 0.1	102	14	45	12	42	1.09	− 0.94	0.38	0.0	8	13	11	7	.....	U. S. Weather Bureau.
Wishek	McIntosh	2,010	5	71.2	.....	110[j]	15	42	9	47[j]	0.56	.....	0.30	0.0	4	18	13	0	nw.	H. E. Timm.
South Dakota.																				
Aberdeen	Brown	1,300	20	71.9	+ 0.8	102	16	45	10	51	1.07	− 2.06	0.45	0.0	6	23	2	6	se.	D. G. Gallett.
Academy	Charles Mix		11	75.2	+ 1.5	103	16	51	12	43	2.88	− 0.52	1.50	0.0	8	19	12	0	se.	I. T. Lothrop.
Alexandria	Hanson	1,352	21	73.3	+ 0.6	97	16	47	12	41	3.12	− 0.17	1.20	0.0	5	21	9	1	se.	W. S. Hill.
Ardmore	Fall River	3,557	1																	Chi., Burl. & Quincy R. R.
Armour	Douglas	1,521	15	74.5	+ 1.4	103	16	50	29	46	3.75	+ 0.41	2.00	0.0	6					T. J. Markey.
Belle Fourche	Butte	3,000	2	71.2	.....	107	14	43	10†	57	1.01	.....	0.43	0.0	5	15	12	4	w.	U. S. Reclamation Service.
Brookings	Brookings	1,636	21	71.3	+ 1.9	94	5	40	3	45	1.68	− 0.74	0.69	0.0	5	18	8	5	sw.	Experiment Station.
Camp Crook	Harding	3,000	18								0.52	− 1.30	0.22	0.0	4	29	1	1	.....	U. S. Forest Service.
Canton	Lincoln	1,248	15	72.9	+ 1.1	95	1†	44	12	39	3.09	− 0.89	1.61	0.0	8	23	8	0	se.	John H. Holsey.
Cascade Springs	Fall River	3,422	2	73.0	.....	100	18	44	6	48	3.14	.....	0.95	0.0	8	21	6	4	ne.	Fred Noerenberg.
Castlewood	Hamlin	1,685	4	69.4	.....	95	16	42	12	40	1.62	.....	0.53	0.0	8	11	14	6	sw.	M. N. Bradley.
Centerville	Turner	1,229	13	72.7	.....	96	16	49	10†	37	3.50	− 1.26	1.07	0.0	10	15	14	2	nw.	Frank Williams.
Chamberlain	Brule	1,363	13	75.6	+ 1.0	99	16	52	10	36	3.20	+ 0.63	1.40	0.0	6	19	12	0	se.	G. A. Fry.
Clark	Clark	1,779	16	70.5	+ 0.8	96	16	46	30†	48	1.73	− 1.04	0.56	0.0	7	21	9	1	s.	O. H. LaCraft.
Cottonwood	Stanley	2,414	2	75.2	.....	116	14	43	26	62	1.11	.....	0.50	0.0	6	24	4	3	se.	Experiment Station.
Crow Creek	Buffalo	1,385									2.42	.....	0.91	0.0	8	25	5	1	se.	William Fuller.
Daviston	Perkins		1	71.8	.....	108	15	32	12	53	0.15	.....	0.09	0.0	3	17	13	1	se.	G. G. Davis.
Deadwood	Lawrence	4,535	1	68.6	.....	100	15	39	10†	47	1.40	.....	0.50	0.0	5	12	19	0	.....	R. E. Grimshaw.
Deerfield	Pennington	6,000	1								2.51	.....	0.75	0.0	11	19	9	3	w.	Frank E. Miller.
De Smet	Kingsbury	1,726	17	71.8[c]	+ 1.6	102[c]	16	45[c]	12	40[c]	1.07	− 1.47	0.45	0.0	5	27	3	1	nw.	J. O. Purintun.
Dowling	Stanley	2,250	1	76.2	.....	105	15	44	12	42	1.05	.....	0.45	0.0	5	15	16	0	se.	M. P. Dowling.
Dumont	Lawrence	6,195	1								2.70	.....	0.81	0.0	7	13	14	4	sw.	A. B. Wood.
Elk Mountain	Custer	4,700	1								3.61	.....	1.23	0.0	10	15	10	6	nw.	James E. Blaine.
Elk Point	Union	1,127	11	74.6	+ 0.4	98	21	52	12†	38	2.15	− 1.15	1.10	0.0	5				se.	M. Hoffman, jr.
Englewood	Lawrence	5,723	1								0.87	.....	0.35	0.0	6	16	13	2	s.	T. J. Cummins.
Eureka	McPherson	1,884	1	73.6	.....	108	15	42	12	44	0.53	.....	0.19	0.0	7	9	22	0	nw.	Experiment Station.
Faulkton	Faulk	1,595	15	73.1	+ 2.7	101	15	45	12	39	0.64	− 2.17	0.14	0.0	7	25	2	4	se.	Miss Belle Talcott.
Flandreau	Moody	1,565	20	71.6[e]	+ 2.1	96[e]	5	41[e]	11	45[e]	1.80	− 1.16	0.60	0.0	8	22	7	2	s.	W. A. Harris.
Forestburg	Sanborn	1,231	18	73.7[a]	+ 2.2	100[a]	16	46	12	44[a]	3.87	+ 1.15	2.27	0.0	8	21	9	1	se.	S. S. Judy.
Fort Meade	Meade	3,624	28	75.0	+ 3.2	104	15	46	12†	49	1.62	− 0.67	0.95	0.0	5	11	18	2	s.	Post Hosiptal.
Frederick	Brown	1,371	3	71.1[b]	.....	102[b]	15	44[b]	11†	54[b]	0.79	.....	0.34	0.0	4	26	4	1	se.	J. E. Jeffers.
Gannvalley	Buffalo		12	75.2	+ 1.8	105	16	47	12	43	2.83	− 0.85	0.76	0.0	11	15	15	1	sw.	V. P. Dripe.
Greenmont	Lawrence	6,430	1								1.97		0.70	0.0	7	20	9	2	s.	H. C. Hoffbuhr.
Greenwood	Charles Mix		16	76.0	+ 1.4	103	5†	52	10	39	3.72	+ 0.15	1.68	0.0	7	21	10	0	se.	T. C. Williamson.
Hardy Ranger Station	Lawrence	6,600	1								2.03	.....	0.86	0.0	8	22	0	9	sw.	Mrs. Mary E. Seals.
Harvey's Ranch	...do	6,282												0.0		17	11	3	w.	Jerome Harvey.
Hermosa	Custer	3,278	4	75.3	.....	105	15	44	11	41	3.42	.....	1.20	0.0	8	22	8	1	.....	S. M. Booth.
Highmore	Hyde	1,890	14	74.4	+ 1.4	101	16	42	12	45	0.85	− 1.78	0.32	0.0	8	18	8	5	se.	Experiment Station.
Hill City	Pennington	5,067	1								3.82	.....	1.62	0.0	12	18	8	5	e.	Geo. A. Karr.
Hopewell	Stanley			76.3	.....	107	15	47	12	44	1.30	.....	0.78	0.0	3	16	13	2	nw.	E. R. Myers.
Howard	Miner	1,564	18																	J. J. Cox.
Howell	Hand		8	72.3	.....	104	16	42	12	50	1.61	.....	0.61	0.0	8	18	11	2	se.	M. A. Shuster, jr.
Huron	Beadle	1,306	28	72.0	+ 0.5	100	16	46	12	38	0.48	− 2.46	0.15	0.0	9	18	8	5	s.	U. S. Weather Bureau.
Ipswich	Edmunds	1,530	13	73.0	+ 2.5	101	15	45	12	43	1.20	− 1.21	0.49	0.0	4	28	2	1	nw.	J. B. Taylor.
Kadoka	Stanley	2,467	1	76.2		103	15	46	12	41	1.22		0.53	0.0	7	11	16	4	s.	Rev. D. S. Brown.
Kennebec	Lyman	1,689	17	76.0[d]	+ 3.3	104[d]	16	45[e]	12	45[f]	1.42	− 0.67	0.59	0.0	7	22	8	1	se.	R. C. Van Horn.
Kidder	Marshall	1,295	6	70.0	.....	98	31	42	11	48	1.83		1.58	0.0	2	23	2	6	sw.	H. C. Schussler.
Kimball	Brule	1,788	21	74.0	+ 1.2	98	14	48	12	41	4.52	+ 1.82	2.38	0.0	6	27	4	0	se.	G. D. Rose.
La Delle	Spink	1,400	13	73.3	+ 1.8	99	16	42	12	38	3.12	− 0.48	1.52	0.0	6	22	8	1	se.	E. L. Ebbert.
Lead§	Lawrence	5,200	1	71.0		95	15	42	12	40	1.52		0.46	0.0	7	8	23	0	se.	E. F. Irwin.
Lemmon	Perkins	2,345	1	73.0	.....	106	14†	45	10	46	0.15	.....	0.08	0.0	3	26	5	0	nw.	W. E. Lyman.
Marion	Turner	1,447	9	73.4	.....	97	17	46	12	43	2.89	.....	0.92	0.0	6	15	16	0	se.	M. H. Dains.
Marston	Sully		2	72.4	.....	103	15	41	12	51	2.02	.....	1.10	0.0	5	16	15	0	se.	John S. Walker.
Mellette	Spink	1,300	15	72.6	+ 1.1	101	16	44	10†	43	0.73	− 2.13	0.16	0.0	8	28	3	0	s.	Frank A. Howe.
Menno	Hutchinson	1,325	13	73.6	+ 1.1	99	16	47	12	37	1.68	− 2.12	0.53	0.0	9	16	10	5	se.	J. H. Swanton.
Milbank	Grant	1,148	19	70.4	+ 0.4	98	16	45	12	42	1.91	− 0.74	0.84	0.0	7	19	4	8	nw.	I. T. Patridge.
Mitchell	Davison	1,312	16	72.9	+ 1.3	100	16	44	12	38	2.04	− 1.28	0.60	0.0	8	20	4	7	s.	C. W. Downey.
Murdo	Lyman	2,300	2	76.7	.....	104	15	49	12	44	0.65	.....	0.30	0.0	4	20	10	1	se.	L. C. Bode.
Oelrichs	Fall River	3,339	18	74.2	+ 2.2	103	16†	43	13	55	3.10	+ 0.88	0.75	0.0	9	14	16	1	nw.	J. E. Strouse.
Orman	Butte	2,920	4	75.6[b]	.....	105[c]	14	44[c]	12	49[c]	0.88	.....	0.41	0.0	6	21	2	8	e.	U. S. Reclamation Service.
Ottumwa	Stanley		2	75.4		105[a]	15	39[a]	11	47[a]	0.57	.....	0.55	0.0	2	25	6	0	se.	J. W. Bretz.
Pierre	Hughes	1,572	18	76.6	+ 1.4	102	15	50	12	37	1.88	− 0.47	0.86	0.0	12	14	16	1	e.	U. S. Weather Bureau.
Plankinton§	Aurora	1,528	16								1.89	− 0.96	0.43	0.0	9	15	15	1	se.	W. G. Andrews.
Pollock	Campbell		4	72.8		111	15	37	12	59	0.26		0.23	0.0	2	16	12	3	nw.	J. H. Jones.
Rapid City	Pennington	3,251	22	73.4	+ 3.2	101	15	46	12	37	5.76	+ 3.21	2.77	0.0	11	11	11	9	w.	U. S. Weather Bureau.
Redfield	Spink	1,295	12	69.1	− 1.3	100	16	42	12†	48	1.81	− 1.15	0.75	0.0	5	25	0	6	se.	A. S. Hall.
Rochford	Pennington	5,228									3.50		0.92	0.0	7	18	11	2	nw.	Mrs. M. E. Deffenbaugh.
Rosebud	Meyer	2,600	16	72.1[b]	− 1.6	98[a]	16†	41[b]	12	46[c]	2.32	− 0.40	1.15	0.0	6	14	17	0	nw.	W. M. Ege.
Roslyn	Day		4	69.5	.....	93	16†	46	12	40	1.37	.....	0.57	0.0	5	24	6	1	sw.	O. O. Floren.
Savoy	Lawrence	4,500	1								1.28	.....	0.50	0.0	8	9	21	1	.....	M. J. Hall.
Selby	Walworth		2			103[a]	15	42[a]	12	48[a]	0.80	.....	0.25	0.0	4					Miss Gertrude Hall.
Sioux Falls	Minnehaha	1,400	19	74.8	+ 3.2	95	16	52	12	37	3.15	− 0.05	1.20	0.0	5	9	19	3	s.	J. H. Bechtold.
Spearfish	Lawrence	3,647	20																	O. A. Martin.
Stephan	Hyde	1,840	6	72.8	.....	100	15†	46	12	50	2.14	.....	0.66	0.0	9	16	14	1	se.	Rev. A. Mattingly.
Tama	Meade		1	79.4	.....	108	15	41[d]	10	46[d]	0.70	.....	0.31	0.0	5	15	5	11	nw.	J. J. Daly.
Vale	Butte	2,765	2	74.4	.....	107	15	42	10	52	1.57	.....	1.03	0.0	4	24	7	0	e.	U. S. Reclamation Service.
Vermilion	Clay	1,222	9	74.9	.....	96	16	50	12	34	3.26	.....	1.48	0.0	10	29	1	1	s.	Prof. E. C. Perisho.
Waters' Ranch	Lawrence	4,000									0.73		0.32	0.0	7	14	12	5	nw.	George Waters.
Watertown	Codington	1,735	16	71.8	+ 4.8	98	16	46	12	41	3.16	− 0.04	0.97	0.0	5	25	3	3	s.	Robert Q. Wood.
Wentworth	Lake		17	71.4	+ 1.0	96	16	47	12	35	2.47	− 0.43	0.60	0.0	7	29	1	1	sw.	R. C. Zimmerman.
White Lake	Aurora	1,646	1								2.18		0.81	0.0	9	15	14	2	se.	Mrs. G. A. Rogers.
Winner	Tripp	2,500		76.9		106	16	42	12	50	1.31		0.38	0.0	5	19	12	0	nw.	A. L. Rawson.
Yankton	Yankton	1,234	36	74.0	− 0.6	98	16	51	12	32	3.87	+ 0.35	1.78	0.0	13	7	23	1	se.	U. S. Weather Bureau.
Minnesota.																				
Pipestone	Pipestone	1,710	11	70.4	+ 1.3	91	1†	43	12	39	2.57	− 0.77	0.67	0.0	7	14	15	2	sw.	W. S. Campbell.

TABLE 1.—*Climatological data for July, 1910. District No. 6*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Colorado.																				
Akron	Washington	4,650	8								1.47		0.61	0.0	6					Ira M. Barnhouse.
Alma	Park	10,238	13								0.61	− 2.00	0.19	0.0	4	19	0	12	n.	F. H. Clark.
Arriba (near)	Lincoln	5,238	4			99	21				2.57		0.93	0.0	9	15	13	3	se.	C. A. Creel.
Auldhurst	Teller	8,500									3.74		1.20	0.0	13	4	21	6	s.	Mrs. Alice A. Auld.
Boreas	Park	11,489									3.44		1.20	0.0	8	3	16	12	se.	Frank Soper.
Boulder	Boulder	5,347	14																	O. H. Wangelin.
Burlington	Kit Carson	4,160	6	76.6		104	27	53	2	43	2.02		0.90	0.0	6	14	17	0	se.	W. P. Davis.
Cassells	Park	8,445												0.0	11	14	9	8	w.	Harriet M. Cassell.
Castle Rock	Douglas	6,220	18	70.2	+ 2.5	97	15	43	1†	50	3.86	+ 1.26	2.30	0.0	9					Geo. Tunnicliff.
Cheesman	Jefferson	6,890	7																	J. G. Thornburg.
Cheyenne Wells	Cheyenne	4,279	18	75.7	+ 2.2	101	27	43	18	51	2.76	− 0.35	1.55	0.0	5	22	7	2	sw.	J. W. Adams.
Cope	Washington		12	76.0	+ 3.4	103	27	50	4	46	2.16	− 1.30	0.94	0.0	6	16	12	3	s.	A. A. Williams.
Corona	Grand	11,660	3	50.3		65	24†	30	9	25	1.10		0.70	0.0	2				w.	U. S. Weather Bureau.
Denver	Denver	5,272	38	74.5	+ 2.7	101	23	51	9	39	3.47	+ 1.85	2.44	0.0	6	13	15	3	s.	Do.
Edgewater	Jefferson	5,450	2	72.0		99	26	48	1	46	2.20		1.36	0.0	4	23	7	1		Dr. N. P. Levin.
Estes Park Fish Hatchery	Larimer	8,000									2.87		0.76	0.0	10	6	23	2	w.	Gaylord H. Thomson.
Fort Collins	...do	4,985	31	70.8	+ 2.3	100	26	47	6†	47	0.87	− 1.06	0.78	0.0	4	13	17	1	nw.	Colorado Agri. College.
Fort Morgan	Morgan	4,319	12	75.6	+ 2.8	103	26	48	8	52	1.17	− 0.91	0.62	0.0	4	13	17	1	ne.	Della M. Scott.
Frances	Boulder	9,300	5	62.5		84	27	39	6†	36	4.13		1.32	0.0	12	6	22	3	w.	D. A. Barry.
Fry's Ranch	Larimer	7,500		62.3		89	24	34	10	46	1.28		0.56	0.0	12	11	17	3	w.	Norman W. Fry.
Georgetown	Clear Creek	8,550	9								2.73		0.81	0.0	14	5	20	6		H. L. Corbett.
Greeley	Weld	4,649	18	73.2[c]	+ 2.4	101[a]	26	48[c]	7	47[c]	0.24	− 1.76	0.12	0.0	3	15	14	2	se.	Nelson Reynolds.
Grover	...do	5,076		71.6		99	26	47	6†	46				0.0		17	10	4	se.	Geo. M. Blake.
Hartsel	Park	7,670									3.37		1.25	0.0	14	14	13	4		Emily Kleinknecht.
Hawthorne	Boulder	6,000	2								1.58		0.51	0.0	7	26	3	2		B. E. Chesebro.
Holyoke (near)	Phillips	3,745	14								1.07	− 1.50	0.50	0.0	3	20	8	3	se.	A. C. Cauble.
Idaho Springs	Clear Creek	7,534	10	65.8	+ 3.1	90	26	44	5	36	4.30	+ 1.66	1.35	0.0	8	2	29	0	e.	J. J. Willis.
Keota	Weld	4,966									0.50		0.50	0.0	1	14	16	1	e.	G. J. Farrell.
Kossler	Boulder	7,720	3																	East Colo. Power Co.
La Porte	Larimer	5,053	19								0.87	− 0.99	0.23	0.0	6					P. A. Taft.
Le Roy (near)	Logan	4,380	20								1.53	− 0.57	0.64	0.0	5					Chas. Green.
Longmont	Boulder	4,980	8																	Great Western Sugar Co.
Long's Peak (near)	Larimer	8,600	15	54.6	+ 0.3	82	26	29	24	49	4.09	+ 1.32	1.20	0.0	10	12	10	9	nw.	Enos A. Mills.
Moraine	...do	7,775	20	61.6	+ 2.3	86	25	32	1†	44				0.0		10	20	1	w.	J. D. Stead.
Platte Canon	Jefferson	5,492	11								2.62	+ 0.73	2.13	0.0	6	18	10	3	sw.	Denver Union Water Co.
St. Cloud	Larimer	7,750	7								1.25		0.62	0.0	7	15	15	1	e.	Miss Guilla Sivers.
Sedgwick	Sedgwick	3,573	2	75.4		103	25†	47	4	50	1.78		0.60	0.0	6	21	10	0	ne.	Dr. Edwin Lewis.
Sill Mine	Clear Creek	11,500	1	52.6		72	21	36	4	27	3.97		0.88	0.0	8	21	4	6	sw.	Chas. F. Deininger.
Silver Lake	Boulder																			Clair V. Mann.
Spicer (near)	Larimer	8,700									1.69		0.53	0.0	7	15	6	10	sw.	Frank W. Murphy.
Sterling	Logan	3,892		70.5		100	26	35	6	51	0.89		0.62	0.0	3	11	19	1	nw.	Great Western Sugar Co.
Waterdale	Larimer	5,206	7	72.1		102	26	46	6	45	1.34		1.05	0.0	4					P. H. Boothroyd.
Westlake	Boulder		2								0.96		0.60	0.0	3	22	0	9	w.	C. R. Keeney.
Wray	Yuma	3,512	14	78.2	+ 4.4	104	25	54	21	45	1.17	− 1.35	0.66	0.0	6	20	10	1	e.	J. C. Tuomey.
Yuma	...do	4,138	19																	Jean Deaken.
Nebraska.																				
Ainsworth	Brown	2,521	5	76.2		102	27	49	12	33	1.52		0.39	0.0	6				sw.	John M. Cotton.
Albion	Boone	1,747	12	73.2[b]	+ 0.8	103[b]	26	47[b]	10	45[b]	2.21	− 1.06	1.10	0.0	6				s.	F. M. Weitzel.
Alliance	Boxbutte	3,968	15	72.0	+ 0.2	100	26	40	10	46	2.00	− 0.53	1.00	0.0	3	21	9	1	se.	J. A. Keegan.
Alma	Harlan	1,939	13	77.2	+ 1.7	103	27†	49	10	40	1.72	− 1.58	0.85	0.0	5	20	9	2	s.	W. A. Sharpnack
Anoka	Boyd		4	74.4		104	16	44	12	48	3.02		0.87	0.0	9	23	6	2	s.	W. Whitla.
Arcadia	Valley	2,186	11								2.10	− 3.02	1.25	0.0	5	14	14	3	se.	Jas. L. Owen.
Ashland	Saunders	1,100	27	77.8	+ 1.5	108	27	53	13	40	0.67	− 4.19	0.32	0.0	5	20	9	2	se.	Dr. A. S. von Mansfelder.
Ashton	Sherman	2,061	17								2.29	− 1.83	0.94	0.0	5	23	6	2	s.	F. Rein.
Atkinson	Holt	2,108	4	73.8		104	27	46	12	37	4.62		2.70	0.0	6	19	10	2	s.	Chas. J. Wilson.
Auburn	Nemaha	1,051	18	76.2	+ 0.5	107	27	52	8†	40	1.42	− 3.41	0.70	0.0	7	22	6	3	s.	J. R. Huffman.
Aurora	Hamilton	1,792	15	77.4	+ 1.2	106	25	43	13	38	1.00	− 2.76	0.90	0.0	2	26	5	0	s.	Chi., Burl. & Quincy R. R.
Beatrice	Gage	1,235	19	77.3	+ 1.1	103	27†	51	10	39	1.69	− 2.70	0.76	0.0	5	24	4	3	se.	Wm. S. Waxham.
Beaver City	Furnas	2,147	19	79.0	+ 2.9	108	27	50[b]	10	43[b]	1.53	− 2.23	0.68	0.0	3	22	8	1	se.	T. M. Davis.
Bellevue	Sarpy	1,210	28	77.0		106	27	54	11	35	1.03	− 3.35	0.29	0.0	7	19	7	5	se.	Prof. A. A. Tyler.
Benkelman	Dundy	2,968	13								0.52	− 1.98	0.36	0.0	5				sw.	R. D. Druliner.
Bertrand	Phelps	2,515	2								2.28		1.08	0.0	6					W. F. Dobbin.
Blair	Washington	1,122	15	75.2	+ 1.3	102	27	51	13	40	1.37	− 3.12	0.47	0.0	8	16	14	1	s.	H. H. Hahn.
Bloomfield	Knox		4	73.7		98	27†	49	10	37	2.83		1.00	0.0	8	9	22	0	s.	Dr. L. C. Bleick.
Bradshaw	York	1,715	11								1.50	− 3.50	1.00	0.0	2	28	2	1		E. C. Roggy.
Bridgeport	Morrill	3,658	14	71.9	+ 0.3	104[a]	26	40[a]	10	53[a]	1.10	− 1.18	0.70	0.0	3	24	6	1	se.	R. H. Willis.
Brokenbow	Custer	2,477	15	74.0	+ 0.7	107	25	45	10	55	2.40	− 1.90	1.48	0.0	7	15	6	10		Chi., Burl. & Quincy R. R.
Burge	Cherry	2,674	4	74.2		100	16	43	12	46	4.03		3.00	0.0	3				se.	H. A. Davis.
Cairo	Hall	1,951	1								1.61		0.85	0.0	4					Elliott Harrison.
Callaway	Custer	2,555	17	75.7	+ 2.6	108	27	45	11	50	1.59	− 1.35	0.76	0.0	4	19	9	3	s.	J. H. Evans.
Cambridge	Furnas	2,258	3	78.1		109	27	57	10†	48	2.06		0.95	0.0	6	20	8	3	ne.	Chas. Jensen.
Canton (near)	Sioux		1	72.4[m]		101[m]	26	44[m]	10†	50[m]	1.32		0.72	0.0	4					A. E. Hann.
Columbus	Platte	1,442	17	74.9	+ 1.5	106	27	51	13	39	1.70	− 2.28	1.20	0.0	4	20	3	8	nw.	C. C. Gray.
Cozad	Dawson	2,496	2								1.93		0.63	0.0	5				s.	A. A. Luttin.
Creighton	Knox	1,600	13																	W. L. Kirk.
Crete	Saline	1,368	27	76.6	+ 1.3	104	27†	53	10	36	0.82	− 3.53	0.43	0.0	4	16	11	4	s.	Doane College.
Culbertson	Hitchcock	2,365	23								0.24	− 2.68	0.10	0.0	5	13	9	9	ne.	J. H. Corrick.
Curtis	Frontier	2,553	13	77.0	+ 1.5	106	27	45[a]	10	47[a]	1.14	− 1.90	0.55	0.0	5	19	8	4	se.	Dr. S. R. Razee.
David City	Butler	1,619	21	75.6	+ 2.4	100	27	54	10†	32	1.62	− 2.61	0.65	0.0	6	15	14	2	se.	S. Clingman.
Dawson	Richardson	945	17	77.7[b]	+ 0.7	107[b]	27	49[b]	14	45[b]	1.07	− 4.18	0.35	0.0	5	21	8	2	ne.	Mrs. E. I. Atkinson.
Dubois	Pawnee	1,074	5								1.70		0.57	0.0	8	20	10	1	se.	O. M. Backus.
Ellis	Gage	1,430	5								1.10		0.83	0.0	3					D. J. Wood.
Elmcreek	Buffalo	2,268	2								4.17		2.00	0.0	6					E. L. Sutton.
Elsie	Perkins	3,382	2								0.41		0.17	0.0	5					J. F. Brittain.
Enderslake	Brown		1																	G. W. Chappell.
Ewing	Holt	1,888	18	74.4		108	27	46	12	42	2.07	− 1.34	0.90	0.0	6					G. H. Benson.
Fairbury	Jefferson	1,316	35	78.6	+ 2.0	107	27†	53	10†	37	0.72	− 4.10	0.32	0.0	4	18	13	0	ne.	W. F. Cramb.
Fairmont	Fillmore	1,641	17	75.0	+ 0.4	104	27†	50	10	38	0.85	− 3.41	0.43	0.0	4	16	8	7	s.	Chi., Burl. & Quincy R. R.
Fort Robinson	Dawes	3,764	26	71.2	+ 0.1	103	26	39	10	55	3.19	+ 1.10	1.71	0.0	9	22	5	4	w.	Post Hospital.
Franklin	Franklin	1,820	19																	Jesse H. Naden.
Fremont	Dodge	1,203	30	76.2	+ 1.4	108	27	50	13	43	1.07	− 3.29	0.50	0.0	5	18	11	2	se.	Ernest Hahn.
Fullerton	Nance	1,629	8	75.5		107	25	52	12†	47	1.84		1.84	0.0	1	18	13	0	s.	Dr. F. W. Johnson.
Geneva	Fillmore	1,633	20	76.6	+ 1.0	105	27†	54	13†	40	1.02	− 2.98	0.37	0.0	5	22	7	2	se.	F. M. Flory.
Genoa	Nance	1,584	35																	F. W. Parsons.
Gordon	Sheridan	3,550	8	71.3[b]		96[b]	16	40[b]	11†	54[b]	3.99		1.16	0.0	7				nw.	G. F. Williams.
Gosper	Gosper		8								1.55		0.63	0.0	5	15	13	3	ne.	E. H. Stoll.
Gothenburg	Dawson	2,557	16	76.6	+ 2.3	109	25	45	10	47	1.83	− 1.06	0.70	0.0	6	21	6	4	se.	Dr. W. J. Bartholomew.

TABLE 1.—*Climatological data for July, 1910. District No. 6*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Nebraska—Cont'd.																				
Grand Island	Hall	1,860	19	75.6	+ 0.5	106	25	53	10	35	0.37	− 3.67	0.12	0.0	4	10	12	9	s.	E. A. Barnes.
Grant	Perkins	3,405	7	75.2[a]	.....	108[a]	27	45[d]	10†	51[d]	0.40	.....	0.25	0.0	2	20	11	0	se.	Cyrus Carver.
Greeley	Greeley	2,021	15	75.2	.....	108	25	48	12	46	0.50	− 3.31	0.31	0.0	4	14	16	1	se.	W. E. Morgan.
Guiderock	Webster	1,646	10								1.75	− 4.26	0.83	0.0	5	9	15	7	.....	J. S. Marsh.
Haigler	Dundy	3,258	15								0.73	− 2.05	0.47	0.0	3	17	3	11	.....	Chi., Burl. & Quincy R. R.
Halsey‖	Thomas	2,695	8	74.3		102	27	46	12	50	1.63	.....	0.70	0.0	6	25	5	1	e.	U. S. Forest Service.
Hartington	Cedar	1,309	19	74.2	+ 1.4	100	16	52	10†	40	2.60	− 0.76	1.10	0.0	7	6	13	12	nw.	D. E. Ewing.
Harvard	Clay	1,812	21	75.0	+ 0.7	103	27†	49	10	40	0.68	− 3.14	0.38	0.0	6	19	10	2	se.	Dr. J. T. Fleming.
Hastings	Adams	1,932	20	75.8	+ 0.6	105	25	53	10†	37	2.03	− 1.69	1.02	0.0	5	27	4	0	se.	Chi., Burl. & Quincy R. R.
Hayes Center	Hayes		17																	C. A. Ready.
Hay Springs	Sheridan	3,821	25	72.0	+ 1.6	99	15	40	12	47	2.43	− 0.25	0.72	0.0	5	18	12	1	se.	A. Kadlecek.
Hebron	Thayer	1,458	25	75.4	− 0.5	102	27†	53	10†	35	2.73	− 1.79	1.70	0.0	7					Dr. C. M. Easton.
Hemingford	Boxbutte	4,256	1								1.73	.....	1.22	0.0	7					A. S. Enyeart.
Hendley	Furnas	2,231	6								2.35	.....	1.20	0.0	3					T. L. Jones.
Hillside	McPherson		1	72.0		104	25	40	10	49	2.52	.....	1.61	0.0	7	26	4	1	se.	Mrs. M. R. Lloyd.
Holdrege	Phelps	2,324	18	77.3	+ 0.9	107	25	52	10†	46	3.00	− 0.30	1.44	0.0	6	21	3	7	se.	Chi., Burl. & Quincy R. R.
Hooper‖	Dodge	1,228	13	76.0	+ 1.5	104	27	52	12	39	2.73	− 2.13	1.40	0.0	5	18	5	8	sw.	Dr. W. Howard Heine.
Imperial	Chase	3,278	20	76.8	+ 2.3	108	27	37	5	51	0.72	− 2.19	0.45	0.0	5	13	12	6	se.	Robt. Malcolm.
Kearney	Buffalo	2,146	20	76.3	+ 0.6	104	25	49	10	41	1.81	− 2.62	0.75	0.0	8	23	7	1	sw.	N. C. Dunlap.
Kimball	Kimball	4,697	21	72.7	+ 1.7	102	26	46	6	51	0.89	− 1.70	0.66	0.0	3	20	10	1	e.	F. J. Bellows.
Kirkwood	Rock		15	73.8	+ 1.1	101	27†	45	12	43	3.01	− 0.83	1.47	0.0	7	20	11	0	s.	Mrs. C. Arter.
Kowanda	Deuel		2								0.81	.....	0.35	0.0	5					Geo. W. Hulse.
Lexington	Dawson	2,385	21	73.9	+ 1.5	104	27	45	12	44	3.12	− 0.26	1.19	0.0	7	27	0	4	se.	Robt. Chadwick.
Lincoln	Lancaster	1,189	31	76.8	+ 0.4	106	27	54	13	37	3.03	− 0.80	2.26	0.0	8	12	10	9	s.	U. S. Weather Bureau.
Lodgepole	Cheyenne	3,820	12	75.0	+ 5.0	103	25	47	10	45	1.12	− 1.43	0.51	0.0	4	18	13	0	e.	R. T. Kidney.
Loup	Sherman	2,067	16	76.4[j]	+ 2.9	105[j]	25	53[j]	8	45[j]	2.24	− 2.60	0.85	0.0	4				se.	E. S. Hayhurst.
Loyal	Custer		2								1.48		0.58	0.0	5				s.	C. H. Cass.
McCook	Redwillow	2,506	15	77.6	0.0	109	27	50[b]	10	50[b]	0.70	− 2.46	0.42	0.0	2	29	2	0	se.	C. G. Coglizer.
McCool Junction	York	1,575	12								0.68	− 3.89	0.38	0.0	3					L. L. Slagle.
Madison	Madison	1,585	17	74.2	+ 1.3	101	27	52	11†	34	3.64	+ 0.16	1.20	0.0	6	25	4	2	se.	Dr. F. A. Long.
Marquette	Hamilton	1,830	31								2.88	− 1.36	1.56	0.0	5					John Ellis.
Mason City	Custer	2,257	9								1.32	.....	0.60	0.0	4					J. A. Amsberry.
Minatare	Scottsbluff	3,825	1																	Anthony Kennedy.
Minden	Kearney	2,169	33	75.5	+ 0.6	105	27	46	10	42	1.47	− 3.11	0.87	0.0	5	12	18	1	se.	Joel Hull.
Mitchell	Scottsbluff		3	72.6	.....	104	26	45	6	48	1.43	.....	0.50	0.0	4	21	10	0	se.	U. S. Reclamation Service.
Morrill	do		1																	Edwin K. Wieland, jr.
Nebraska City	Otoe	941	33	77.3	+ 1.4	105	27	51	7	40	0.95	− 2.76	0.45	0.0	3	21	8	2	s.	Chi., Burl. & Quincy R. R.
Norfolk	Madison	1,532	27	73.6	+ 0.2	97	27†	49	13	38	3.04	− 1.22	1.15	0.0	9	26	3	2	s.	Dr. P. H. Salter.
North Loup	Valley	1,961	22	75.8	+ 1.9	107	25	48	11	45	0.72	− 3.25	0.40	0.0	4	18	13	0	se.	W. G. Rood.
North Platte	Lincoln	2,841	36	74.6	+ 0.7	107	27	47	10	41	0.50	− 2.18	0.41	0.0	4	24	4	3	se.	U. S. Weather Bureau.
Oakdale	Antelope	1,722	23	73.4	+ 0.2	103	27	50	12	39	3.88	+ 0.23	1.04	0.0	8	16	12	3	s.	G. S. Clingman.
Odell	Gage	1,278	16								0.63	− 4.15	0.28	0.0	3	15	9	7	.....	Chi., Burl. & Quincy R. R.
Omaha	Douglas	1,103	40	77.8	+ 1.3	104	27	59	10	30	1.90	− 2.43	0.76	0.0	8	15	12	4	s.	U. S. Weather Bureau.
Ord	Valley	2,062	16								1.11	− 2.60	0.37	0.0	7	19	10	2	s.	James Milford.
Orleans	Harlan	1,993	2								2.30		0.95	0.0	5					James McGeachin.
Osceola	Polk	1,644	12	76.6[a]	.....	105[a]	25	50[a]	12†	46[a]	3.26	− 1.39	2.10	0.0	3				s.	G. T. Ray.
Palisade	Hitchcock		1								0.51		0.22	0.0	3					E. E. Young.
Palmyra**‖	Otoe	1,142	15	77.2	+ 2.0	104	27	62	12†	...	1.50	− 2.92	1.28	0.0	4	24	6	1	s.	Thomas Coles.
Pawnee City	Pawnee	1,175		75.8	.....	106	27	48	13	40	1.32	− 3.11	0.62	0.0	4	27	2	2	s.	Frank A. Barton.
Paxton	Keith		1								1.31	.....	0.64	0.0	5					H. D. Lute.
Plymouth	Jefferson	1,419	6	77.1	.....	105	25	51	10	38	1.32		1.05	0.0	3	10	17	4	se.	John Ruppel.
Purdum	Blaine		10	73.6		102	27	44	10	48	1.72	− 1.61	0.39	0.0	8	22	7	2	se.	T. C. Jackson.
Ravenna	Buffalo	2,028	33	75.6	+ 1.8	106	25	46	10	42	2.02	− 2.23	1.40	0.0	6	24	5	2	se.	H. G. Smith.
Redcloud	Webster	1,687	18	76.3	− 0.5	103	27†	48	10	43	2.18	− 2.47	0.70	0.0	5	26	3	2	s.	Chas. S. Ludlow.
St. Libory	Howard	1,887	15								1.00	− 3.73	0.52	0.0	3	16	12	3	se.	W. I. Meader.
St. Paul	do	1,796	16	77.2	+ 2.1	106	25	48	10	40	0.44	− 4.33	0.22	0.0	4	24	7	0	nw.	Paul Anderson.
Santee	Knox		22	76.0	+ 0.4	100	5	52	12	42	4.50	+ 0.85	1.90	0.0	9	12	18	1	se.	Nat H. Neff.
Sargent	Custer	2,339	13			105[d]	27				1.40	− 2.03	0.80	0.0	3					Jas. L. Ferguson.
Schuyler	Colfax	1,357	17	77.2	.....	110	27	50	7†	41	0.91	− 2.91	0.43	0.0	6	18	11	2	s.	John T. Sumner.
Scottsbluff	Scottsbluff	3,888	4	73.6		103	26	43	10	52	1.15	.....	0.64	0.0	8	25	6	0	se.	A. B. McCoskey.
Seward	Seward	1,435	20	76.4	− 0.3	104	26	47	30	39	2.65	− 1.95	1.60	0.0	4	25	6	0	s.	Chi., Burl. & Quincy R. R.
Sheridan	Wheeler		2								0.98		0.49	0.0	6	25	6	0	se.	J. C. Harris.
Sidney	Cheyenne	4,090	18								1.27	− 1.03	0.66	0.0	5	26	3	2	se.	John P. Fischer.
Springview	Keyapaha		17	74.9	+ 1.5	104	16	46	12	43	1.38	− 1.74	0.48	0.0	6	16	14	1	ne.	C. L. Phelps.
Stanton	Stanton	1,472	19	73.6	+ 0.7	98	27	50	7	37	3.45	− 0.64	1.40	0.0	5	19	12	0	ne.	Alfred Pont.
Stratton	Hitchcock	2,804	15								1.31	− 1.09	0.76	0.0	3					Miss Stella Vennum.
Superior	Nuckolls	1,574	25								1.40	− 3.28	0.75	0.0	1					F. V. Bishop.
Tablerock	Pawnee	1,023	22								1.55	− 3.04	0.63	0.0	7	22	9	0	se.	E. D. Howe.
Tecumseh	Johnson	1,113	32	77.6	+ 0.2	108	25	45	12	48	0.78	− 3.57	0.31	0.0	4	9	19	3	sw.	Chi., Burl. & Quincy R. R.
Tekamah	Burt	1,060	20	75.0	0.0	100	27	49	13	41	2.13	− 2.40	0.59	0.0	8	20	11	0	s.	Dr. A. D. Nesbit.
Tobias	Saline	1,597	1								0.52		0.25	0.0	4	8	19	4	s.	Frank Ainsworth.
Turlington	Otoe	1,214	18	77.2	+ 1.2	106	27	55	13	35	0.65	− 3.20	0.25	0.0	4	23	6	2	ne.	Wm. N. Hunter.
University Farm‖	Lancaster		25	76.6		105	27†	51	7†	40	2.42	− 1.75	1.82	0.0	5	15	13	3	.....	S. W. Perin.
Valentine	Cherry	2,613	22	73.4	+ 0.2	101	16	47	12	43	2.14	− 1.26	0.89	0.0	9	16	15	0	s.	U. S. Weather Bureau.
Wahoo	Saunders	1,187	8								0.69		0.33	0.0	5	22	9	0	.....	W. T. Mauck.
Wakefield	Dixon	1,387	16	73.3	+ 0.5	98	21	49	10†	42	2.36	− 0.99	0.99	0.0	7	16	12	3	s.	I. H. Weaver.
Walthill	Thurston		8																	H. L. Keefe.
Watertown	Buffalo	2,299	5								1.40		0.90	0.0	4	20	11	0	se.	R. E. Swift.
Wauneta	Chase		11								0.77	− 2.09	0.35	0.0	4					C. D. Fuller.
Weepingwater	Cass	1,080	33	76.6	.....	110	27	46	13	47	0.73	− 3.20	0.43	0.0	5	23	5	3	se.	S. W. Orton.
Wellfleet (near)	Lincoln		1																	Mrs. Eli Votaw.
Westpoint	Cuming	1,313	24	76.3	+ 1.8	99	27	52	13	41	3.88	− 0.12	1.20	0.0	5	25	5	1	ne.	J. C. Elliott
Wisner	do	1,380	14								2.91	− 1.41	1.47	0.0	5				se.	F. C. Evans.
Woodlawn	Lancaster		5								1.88		1.47	0.0	4	13	15	3	se.	H. C. Kendall.
York	York	1,606	21	76.2	− 0.4	106	27†	53	13	40	3.46	− 1.07	2.47	0.0	4	23	4	4	e.	A. T. Giauque.
Iowa.																				
Afton‖	Union	1,212	16	74.9	− 0.3	94	16†	54	13	29	0.96	− 3.39	0.67	0.0	6	16	13	2	sw.	N. W. Rowell.
Allerton‖	Wayne	1,513	8	74.9	.....	97	24	54	13†	32	2.49	.....	0.61	0.0	7	22	5	4	nw.	Mrs. Geo. Shriver.
Alton	Sioux	1,305	5	72.4		97	17	50	13	37	3.84	.....	1.02	0.0	8	13	15	3	se.	W. S. Slagle.
Atlantic	Cass	1,164	19	75.4	+ 2.2	98	27	48	13	39	0.82	− 3.51	0.31	0.0	6	12	7	12	ne.	Thos. H. Whitney.
Audubon‖	Audubon	1,301	16	72.8	+ 0.7	93	16	46	13	39	1.47	− 2.45	0.57	0.0	10	18	6	7	se.	Geo. E. Kellogg.
Bedford‖	Taylor		10	76.2	+ 2.8	106	27	48	7†	42	1.35	− 3.99	0.96	0.0	4	18	10	3	ne.	E. E. Healy.
Centerville	Appanoose										2.74		1.83	0.0	4	25	3	3	e.	Gordon Peacock, jr.
Chariton‖	Lucas	1,042	15	74.2	+ 0.4	99	24	50	12	36	1.59	− 3.87	0.70	0.0	4	27	0	4	se.	C. C. Burr.
Clarinda	Page	1,009	20	73.4	− 2.1	101	27	49	13	39	2.17	− 2.53	1.47	0.0	7	21	1	9	ne.	A. S. Van Sandt.
Corning‖	Adams	1,117	18	74.2	+ 0.6	96	17†	47	13†	45	1.98	− 2.37	0.72	0.0	6	14	13	4	ne.	Jerome Smith.
Corydon‖	Wayne	1,101	17	75.8	+ 1.0	99[a]	25	54[a]	13†	37[a]	1.89	− 2.29	0.85	0.0	6	16	10	5	se.	Clara Miller.

TABLE 1.—*Climatological data for July, 1910. District No. 6*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Iowa—Cont'd.																				
Council Bluffs	Pottawattamie																			B. W. Crossley.
Creston	Union	1,312	5	74.8		98	27	50	13	36	1.55		0.86	0.0	8	14	7	10	sw.	O. J. Colby.
Cumberland	Cass		10								2.50	− 2.94	1.32	0.0	6	25	3	3	sw.	J. H. Reppert.
Denison	Crawford	1,180	16	72.8	+ 0.1	94	1	45	13	41	1.92	− 2.14	0.74	0.0	9	23	6	2	s.	W. C. Van Ness.
Elliott	Montgomery		5	74.8		97	27	50	13	35	1.42		0.53	0.0	7	19	12	0	se.	Henry Barnes.
Greenfield	Adair		18	74.6	+ 0.7	96	16	52	10	36	1.30	− 3.40	0.32	0.0	7	20	10	1	sw.	R. B. Oldham.
Harlan‖	Shelby	1,192	11	73.3	+ 0.1	95	16	47	13	41	1.25	− 4.06	0.42	0.0	8	12	12	7	s.	C. A. Reynolds.
Hopeville	Clarke		19	75.4	+ 1.3	98	24	54	13†	34	1.70	− 3.15	0.78	0.0	6	10	20	1	s.	M. T. Ashley.
Inwood‖	Lyon	1,474	6	73.3		96	1	48	12	39	3.53		1.53	0.0	10	20	9	2	ne.	F. B. Hanson.
Lamoni	Decatur		3	76.1		97	26†	53	19	36	3.40		0.98	0.0	7	21	7	3	s.	T. J. Fitzpatrick.
Larrabee	Cherokee	1,266	20	71.0	− 1.8	92	16	50	13	32	3.47	− 0.90	1.30	0.0	6	17	13	1	sw.	H. B. Strever.
Le Mars‖	Plymouth	1,224	14	71.4	− 1.0	89	21	52	12	31	5.18	+ 0.71	1.20	0.0	9	14	16	1	se.	G. A. C. Clarke.
Lenox‖	Taylor	1,250	15	76.0	+ 2.2	97	27	54	7†	34	1.70	− 3.24	0.71	0.0	6	21	8	2	nw.	J. L. Hurley.
Leon	Decatur	1,120	8	77.8	+ 4.6	97	22	56	14	33	3.27	− 1.15	1.51	0.0	6	22	8	1	s.	Morris Gardner.
Little Sioux‖	Harrison		5	75.2	+ 2.2	97	16†	50	7	42	1.62		0.54	0.0	8	19	9	3	sw.	Geo. H. Gibson.
Logan‖	do	928	43	74.2	− 0.5	99	27	48	13	42	2.78	− 2.41	1.13	0.0	9	14	16	1	se.	Glenn H. Stern.
Massena‖	Cass		4																	C. E. Smeltzer.
Mount Ayr‖	Ringgold	1,236	17	76.8	+ 1.8	99	24†	56	10†	35	3.46	− 1.85	1.50	0.0	8	18	11	2	sw.	A. F. Beard.
Odebolt‖	Sac	1,356	13	75.2	+ 0.7	98	26	51	13	38	1.72	− 2.92	0.60	0.0	7	17	13	1		E. Starner.
Onawa‖	Monona	1,031	10	75.3	+ 0.3	93	21†	53	13	35	2.98	− 2.69	1.10	0.0	8	22	5	4	nw.	C. G. Perkins.
Pacific Junction‖	Mills	960	11	74.6	+ 0.4	103	27	45	13	44	0.96	− 4.17	0.52	0.0	4	17	14	0	s.	H. H. McCartney.
Rock Rapids‖	Lyon	1,358	11	60.8	+ 3.4	95	1	52	7	36	1.55	− 1.32		0.0	3					W. C. Wyckoff.
Sheldon‖	O'Brien	1,422	10	73.0	+ 0.9	98	15	49	12†	41	3.37	− 1.77	1.60	0.0	7	21	6	4	s.	Dr. A. W. Beach.
Sibley	Osceola	1,212	17	69.8	− 0.4	91	16	49	12	32	3.10	− 0.87	0.82	0.0	10	16	15	0	ne.	H. G. Doolittle.
Sioux Center‖	Sioux		11	71.8	+ 0.6	93	16	50	12	32	4.06	− 0.65	1.37	0.0	7	21	6	4	s.	J. de Ruyter.
Sioux City	Woodbury	1,135	21	74.0	− 0.2	94	16	53	12	31	3.69	+ 0.08	2.11	0.0	8	13	9	9	s.	U. S. Weather Bureau.
Thurman‖	Fremont		13	75.8	+ 0.4	104	27	46	13	41	1.08	− 4.83	0.48	0.0	5	14	15	2	nw.	C. R. Paul.
Washta‖	Cherokee	1,157	12	71.6	+ 1.0	95	16	44	13	41	2.27	− 2.18	0.60	0.0	7	19	10	2	s.	H. L. Felter.
Woodburn‖	Clarke	961	11	73.1		99	16†	43	19	47	1.07	− 4.09	0.39	0.0	8	14	16	1	se.	C. B. McDonough.
Kansas.																				
Abilene	Dickinson	1,157	15								1.88	− 2.15	1.12	0.0	5	6	20	5	ne.	T. W. Sherman.
Agricultural College	Riley	1,100	52	78.1	− 0.6	105	26†	55	19	39	5.83	+ 1.08	2.05	0.0	9	17	12	2	sw.	Prof. J. O. Hamilton.
Alton	Osborne	1,651	8	78.8		108	25†	55	10	40	2.93	− 0.91	1.18	0.0	5	16	14	1	se.	H. A. Storer.
Atchison	Atchison	973	19	79.0	+ 2.0	106	26	55	13	36	1.85	− 3.10	0.70	0.0	6	18	11	2	s.	Prof. M. F. Troxell.
Baker	Brown	1,182	10	75.4		102	25†	52	13	35	1.65		0.65	0.0	5	8	2	21	s.	E. A. Bastien.
Beloit	Mitchell	1,383	15								1.82	− 1.84	0.90	0.0	4	15	8	8	se.	W. H. Houghton.
Blakeman	Rawlins	2,894	13	77.9		108	27	52	14†	49	1.03	− 2.38	0.45	0.0	5	24	5	2	se.	C. L. Henderson.
Blue Rapids	Marshall	1,105	4								2.65		2.11	0.0	5	21	2	8		M. Norton.
Centralia	Nemaha	1,256	1	74.7		101a	27†	48a	13†	40a	2.74		1.55	0.0	7	20a	10a	0a	se.	L. E. Hazen.
Chapman	Dickinson	1,113	6	80.0		107	26†	55	13	39	2.03		0.65	0.0	7	24	7	0	s.	Dr. R. McShea.
Clay Center	Clay	1,203	9	78.4		108	25	52	21	39	2.40		1.00	0.0	4	15	9	7	s.	O. L. Slade.
Colby	Thomas	3,138	19	78.4	+ 3.0	105	23†	55	2†	45	0.25	− 2.32	0.24	0.0	2	27	4	0	se.	R. M. Chelf.
Concordia	Cloud	1,398	26	79.0	+ 0.9	106	23	56	10	36	1.54	− 2.08	1.04	0.0	6	6	23	2	se.	U. S. Weather Bureau.
Densmore	Norton	2,200	1	78.6		108a	27	53a	10	44a	1.46		0.72	0.0	4	14	17	0	e.	F. S. Griffith.
Dresden	Decatur	2,731	16	78.8	+ 4.0	108	27	56	10	40	1.29	− 2.60	0.72	0.0	5	19	8	4	se.	Jacob Bock.
Ellsworth	Ellsworth	1,537	6	78.6		110	26	53	19	41	1.55		1.20	0.0	2	19	9	3	s.	Geo. Seitz.
Enterprise	Dickinson	1,144	8	78.6		106	28	56	13†	40	2.49	− 1.54	0.75	0.0	8	7	19	5	s.	H. O. Wagner.
Eskridge	Wabaunsee	1,412	4	78.6		104	26†	56	19	31	2.53		0.70	0.0	7	16	14	1	s.	Geo. D. West.
Farnsworth	Lane	2,850	9	78.9		105	23	52a	10	42a	1.05		0.62	0.0	5	29	2	0	s.	C. M. Jennison.
Ft. Scott	Bourbon	857	35	79.5	+ 1.8	104	29	55	19†	31	4.52	+ 0.18	1.07	0.0	8	25	0	6	se.	E. A. Shaver.
Frankfort	Marshall	1,146	16	77.6	− 0.6	106	25†	50	14	46	1.56	− 3.26	0.75	0.0	6	17	14	0	ne.	E. C. Dunham.
Garnett	Anderson	950	4	79.0		107	28	56	19	26	2.98		1.17	0.0	9	13	18	0	s.	D. D. Judy.
Goodland	Sherman	3,687	3											0.0						G. C. Calvert.
Gove	Gove	2,750	21	78.6	+ 1.6	107	26	60	9†		1.32	− 2.33	0.79	0.0	3	12	19	0	se.	Jesse Royer.
Hanover	Washington	1,225	13	78.6		105	25	54	10†	37	2.72	− 1.41	1.45	0.0	5	24	7	0	s.	August Jaedicke, jr.
Harrison	Jewell	1,804	9	76.8		105	25	48	10	44	2.10		1.16	0.0	5	22	6	3	se.	Mahlon Tegley.
Hays	Ellis	2,000	42	79.4	+ 2.6	107	23	54	10†	42	2.45	− 1.07	1.72	0.0	5	18	13	0	se.	G. K. Helder.
Hill City	Graham	2,134	2																	I. R. Mort.
Horton	Brown	1,188	21	77.2	+ 0.7	103	25	57	13	31	1.61	− 2.78	1.02	0.0	7	19	12	0	s.	Mrs. S. C. Belden.
Hoxie	Sheridan	2,700	12	80.0	+ 3.0	109a	27	58a	13	40a	1.10	− 2.03	0.65	0.0	3	20	9	1	se.	C. T. Dallam.
Jewell	Jewell	1,540	5	80.4		108	27	44	4	52	1.95		1.07	0.0	3	23	6	2	s.	C. A. Shinn.
Lawrence	Douglas	997	42	78.5	+ 1.1	104	26	59	13†	30	3.61	− 1.16	1.32	0.0	9	10	19	2	sw.	Prof. H. P. Cady.
Lebanon	Smith	1,812	12	79.6		106	25†	54	11	38	1.91	− 2.42	0.90	0.0	5	24	6	1	n.	Earl V. Bower.
Lindsborg	McPherson	1,333	4								1.30		0.79	0.0	3	28	2	1	s.	N. S. Weddle.
Mankato	Jewell	1,784	1	77.3		106	25	54	10	38	1.87		0.88	0.0	6	17	10	4	se.	R. M. Cauthorn.
Minneapolis	Ottawa	1,259	20	78.6	− 0.3	105b	23†	56b	19	35b	2.15	− 0.92	1.20	0.0	5	24	4	3	se.	J. L. Steele.
Moran	Allen	1,098	14	80.4	+ 2.6	104	26†	57	19	33	1.92	− 3.19	0.75	0.0	6	23	8	0	sw.	C. J. Norton.
Natoma	Osborne	1,834	1								0.21		0.14	0.0	3	27	4	0	se.	C. O. Hunt.
Norton	Norton	2,284	12	79.0	+ 4.5	107	25†	57	10	40	0.86	− 2.79	0.28	0.0	5	12	19	0	se.	Sim Sleffel.
Oberlin	Decatur	2,539	23								0.88	− 2.74	0.26	0.0	6	29	2	0	nw.	I. K. Huber.
Oketo‖	Marshall	1,194	2	78.9		106	25	53	7†	39	0.92		0.38	0.0	5	7	23	1	se.	J. A. Church.
Olathe	Johnson	1,032	15	78.9	+ 1.9	105	28	57	13	35	2.63	− 2.85	0.69	0.0	5	20	9	2	sw.	Dr. S. B. S. Wilson.
Osage City	Osage	1,081	11	78.6		106a	26†	52a	19	35b	2.41	− 2.36	0.70	0.0	6	18	6	7	s.	W. C. White.
Ottawa	Franklin	926	16	79.1	+ 1.7	107	26†	57	1†	39	2.48	− 2.52	1.50	0.0	6	20	7	4	se.	Herbert F. McDougal.
Phillipsburg	Phillips	1,939	19	77.6j	+ 0.8	104j	5	53j	10†	41j	0.98	− 1.90	0.39	0.0	4	14j	7j	0j	se.	N. E. Bailey.
Pleasanton	Linn	862	8	77.6		99	26†	55	19	28	3.14		1.28	0.0	10	27	4	0	sw.	B. F. Blaker.
Russell	Russell	1,834	11	79.8	+ 2.0	110	23	54	10	45	1.59	− 1.42	0.88	0.0	3	18	11	2	se.	Robert Brebner.
Russell Springs	Logan			79.2		107	23†	53	10	50	1.44		0.55	0.0	5	18	11	2	se.	D. J. Hutto.
St. Francis	Cheyenne	3,288	2	79.1		109	27	54	2†	50	0.68		0.54	0.0	2	14	15	2	se.	J. E. Uplinger.
Salina	Saline	1,227	26	79.9	+ 0.3	111	26	57	13	49	1.12	− 2.63	0.50	0.0	4	24	7	0	s.	Prof. A. W. Jones.
Scott	Scott	2,971	4	78.8		103	26†	55	10	43	2.12		1.01	0.0	4	16	14	1	s.	J. P. Loughran.
Smith Center	Smith	1,800									1.54		1.18	0.0	3	24	4	3	sw.	W. H. Nelson.
Topeka	Shawnee	997	24	79.4	+ 1.8	105	26	59	19	31	2.80	− 2.03	1.74	0.0	8	18	13	0	s.	U. S. Weather Bureau.
Valley Falls	Jefferson	913	11	77.3	+ 1.5	103	28	55	13	32	2.10	− 2.45	0.84	0.0	6	22	8	1	se.	Miss Nettie Maxwell.
Vinland‖	Douglas	880	1	77.9		103	26†	53	19	29	1.90		0.69	0.0	5	16	12	3	sw.	A. Schick.
Wakeeney	Trego	2,456	27	78.6	+ 1.5	107	23	55	10	39	1.79	− 1.68	0.64	0.0	8	24	7	0	s.	A. S. Peacock.
Wallace	Wallace	3,303	40	78.5		108	27	53	14	53	1.44	− 1.90	0.82	0.0	5	5	26	0	se.	M. T. Griggs.
Wamego‖	Pottawatomie	1,002	17								5.25	+ 0.11	1.40	0.0	7	14	14	3	ne.	M. L. Stone.
Missouri.																				
Amoret	Bates	850	1	78.9		105	28	55	19	34	3.42		1.02	0.0	7	13	15	3	sw.	Darby Fruit Farm.
Appleton City	St. Clair	853	20	78.3	+ 0.6	100	25†	55	19	33	4.12	− 1.47	1.96	0.0	9	15	16	0	s.	T. C. Brown.
Arlington	Phelps	695	20								8.52		2.10		8					George V. Randolph.
Arthur	Vernon	767	18	78.0	+ 1.7	102	25†	53	20	32	2.59	− 1.96	1.63	0.0	6	14	17	0	sw.	J. T. Armstrong.
Avalon	Livingston		25	76.8	+ 0.1	100	24	55	13	30	4.73	+ 0.08	3.00	0.0	5	27	4	0	sw.	F. G. Ashbaugh.
Bagnell	Miller	594	15								4.88	− 0.16	1.20	0.0	10	15	8	8	w.	W. S. Brockman.
Bethany	Harrison	881	20	76.8	+ 1.9	102	21	53	14†	37	1.61	− 3.25	0.97	0.0	3	27	4	0	se.	W. H. Skinner.
Bolivar	Polk	1,070	22	76.5	+ 0.5	96	25†	49	19	34	4.97	+ 1.11	2.00	0.0	10	17	14	0	sw.	E. Walts.

TABLE 1.—*Climatological data for July, 1910. District No. 6*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Missouri—Cont'd.																			
Boonville	Cooper	600	34								4.20	− 0.16	1.76	0.0	6	17	4	10	sw.	C. Randecker.
Brunswick§‖	Charitan	652	32	78.0	+ 1.2	101	27	57	13†	32	6.15	+ 1.55	3.85	0.0	6	11	8	12	s.	Louis Benecke.
Clinton	Henry	800	24	78.6		101	27†	56	19	36	5.27	+ 0.71	1.83	0.0	8	26	5	0	e.	Dr. G. W. Menees.
Columbia	Boone	784	21	76.2	− 1.2	96	25	56	19	27	5.25	+ 1.60	2.40	0.0	8	19	8	4	s.	U. S. Weather Bureau.
Conception§	Nodaway	982	26	78.4	+ 3.0	105	27	55	13	32	0.20	− 4.19	0.16	0.0	2	9	17	5	nw.	Fr. Adhelm Hess.
El Dorado Springs	Cedar	750	5	78.4		102	28†	53	20†	37	2.96		1.31	0.0	5	17	7	5	s.	Samuel Graham.
Fairport	De Kalb	920	16								0.77	− 3.56	0.32	0.0	3	23	6	2	sw.	J. W. Lincoln.
Fayette§	Howard	725	27	76.6	− 0.6	95	27	58	19	25	6.58	+ 2.60	3.00	0.0	6	21	10	0	.....	Prof. T. Berry Smith.
Fulton	Callaway	818	19								5.65	+ 0.93	2.21	0.0	6	13a	9a	2a	.....	Dr. J. L. Brenneman.
Glasgow	Howard	618	33								4.67	+ 0.84	3.20	0.0	4	16	8	7	se.	J. J. Shaughnessy.
Grant City	Worth	1,130	18	78.0		109	27	55	13	36	0.56	− 4.89	0.33	0.0	2	23	6	2	se.	W. H. Campbell.
Harrisonville§‖	Cass	912	38	79.0	+ 1.6	106	26†	56	20	33	1.75	− 2.34	0.68	0.0	6	16	4	11	ne.	A. J. Sharp.
Hazelhurst	Livingston		17								3.60	− 0.52	1.94	0.0	6					W. H. Baker.
Hermann	Gasconade	482	36								8.62	+ 4.66	1.42	0.0	13	10	6	15	s.	C. T. Maushund.
Houston	Texas	1,280	18	74.9	− 0.9	94	25†	50	20	30	8.63	+ 4.19	2.13	0.0	12	4	25	2	n.	E. Dempsey.
Huntsville	Randolph	790	8																	F. H. Hammitt.
Jefferson City§‖	Cole	628	29	75.8	− 2.2	100	25	54	19†	33	7.00	+ 3.23	3.00	0.0	11	16	0	15	s.	Miss Emma Swift.
Kansas City	Jackson	963	21	79.0	+ 1.4	103	26	62	19	27	2.99	− 1.85	1.23	0.0	9	17	13	1	s.	U. S. Weather Bureau.
Kidder§‖	Caldwell	1,017	20	77.2	+ 1.0	101	24†	55	19	29	1.60	− 2.98	0.57	0.0	5	23	6	2	ne.	J. F. Sharp.
Lamonte	Pettis	863	22	77.0		97	25	53	13	34	4.84	+ 0.15	2.06	0.0	9	18	13	0	ne.	J. R. Wade.
Lebanon	Laclede	1,265	22	77.0	+ 0.4	95	29	55	19	23	5.31	+ 0.66	1.30	0.0	7	19	10	2	s.	M. W. Serl.
Lexington§‖	Lafayette	813	28	77.6	+ 1.2	100	27	55	13	32	4.29	− 0.93	3.15	0.0	5	19	0	12	s.	J. W. Keithley.
Liberty	Clay	864	22	78.5	+ 1.3	104	27	55	13	33	4.72	− 0.02	2.90	0.0	5	16	13	2	sw.	W. C. Wilmott.
Lockwood	Dade	1,088	16	77.7		101	29	55	19	27	5.27	− 0.26	1.22	0.0	7	21	7	3	ne.	C. S. Crow.
Marshall	Saline	779	20	77.2	+ 0.7	97	27	57	13	33	8.59	+ 4.26	5.10	0.0	7	25	5	0	sw.	Dr. W. H. Black.
Marshfield	Webster	1,492	2	76.3		97	29	52	20	30	6.01		1.50	0.0	10	10	8	11	sw.	Dr. O. P. Keller.
Maryville§‖	Nodaway	1,160	20	76.8	+ 1.6	106	27	53	19	38	0.88	− 4.92	0.47	0.0	5	21	2	8	s.	J. R. Brink.
Mount Vernon	Lawrence	1,480	34																	O. L. White.
Nevada	Vernon	880	16								2.94	− 1.24	1.26	0.0	8	28	3	0	sw.	C. Jewell.
Oregon	Holt	1,113	55	76.8	+ 1.6	104	27	54	19	36	0.47	− 4.08	0.20	0.0	4	22	7	2	se.	Tom Curry.
Osceola	St. Clair	738	11								3.19	− 2.17	1.27	0.0	7	17	6	8	sw.	W. E. Matthews.
Pattonsburg	Daviess										1.89		0.90	0.0	5	15	7	9	nw.	Wm. Burton.
Rolla	Phelps	1,092	29	76.8		96	25	56	19	25	4.81	+ 0.65	2.78	0.0	11	18	6	7	sw.	Prof. P. J. Wilkins.
St. Charles	St. Charles	614	32	76.8	− 0.6	97	25	55	19	30	7.27	+ 3.73	2.03	0.0	12	15	6	10	s.	L. C. Saeger.
St. Joseph	Buchanan	825	39	79.1		103	28	57	19	31	0.33	− 3.65	0.11	0.0	5	12	16	3	se.	U. S. Weather Bureau.
St. Louis	St. Louis	567	39	76.9	− 2.2	94	25	60	19	28	4.21	+ 0.78	0.97	0.0	14	13	8	10	sw.	Do.
Sublett	Adair	1,000	30	75.2	− 0.6	95	24	51	13	35	10.85	+ 6.46	2.60	0.0	5	11	14	6	sw.	Lewis Spriggs.
Trenton	Grundy	812	15	77.0	− 0.6	98	27	57	19	28	3.14	− 1.08	1.54	0.0	5	17	11	3	s.	W. H. Estes.
Unionville§‖	Putnam	1,072	17	75.0	− 1.1	98	1	50	19	37	4.56	− 0.06	2.00	0.0	6	16	3	12	s.	Geo. W. Davis.
Warrensburg	Johnson	883	32	78.2	− 0.2	99	27	56	19	29	4.05	− 0.19	1.97	0.0	7	24	5	2	sw.	A. F. Smithson.
Warrenton§‖	Warren	865	20	76.5	− 0.8	97	25	54	19	30	6.44	+ 2.55	1.42	0.0	13	12	3	16	n.	Dr. John H. Frick.
Warsaw	Benton	700	6	79.6		103	28	52	19	36	4.63		1.76	0.0	9	14	16	1	sw.	Dr. J. R. Smith.
Wheatland	Hickory	920	18								1.96	− 2.34	0.85	0.0	6	18	12	1	s.	Mrs. S. A. Jackson.

a, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
* Precipitation included in that of the next measurement.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
‡ Separate dates of falls not recorded.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
‖ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
Estimated by observer.
Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for July, 1910. District No. 6, Missouri Valley.*

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Wyoming.																															
Barnum	Powder								.42			.02				T.		T.	.25	T.										.15			0.84
Basin	Big Horn																														
Bennett	North Platte				.08																							.80	.10		.10		1.08
Big Creek Station	...do	T.																											.70	.20			0.90
Burns	South Platte				T.	T.																.35							.10			0.45
Casper	North Platte																														
Cheyenne	South Platte	.02			T.	.01					T.		T.	T.			.34	T.	.02	.16	.02	.10	T.					.16	.15	.02	.32		1.32
Chugwater	North Platte	T.			T.	.02					.32	T.		.08								.02							.17	T.			0.61
Clark	Clark's Fork	T.	T.		T.				T.	.03	T.		.04			T.			.26	.01	.18	.11						T.		T.	.10	.06	0.81
Cody	Big Horn								T.	.15											.13	.18	T.										0.46
Crystal Lake	South Platte	T.			T.	T.				T.							T.		T.	T.	T.	.37	.11					.35	.39	T.	T.		1.22
Dome Lake	Tongue	T.			.01				.01		T.	.01					.01		.03		.06	T.	.01							.01			0.15
Douglas	North Platte																														
Dubois	Big Horn				T.								T.				.08		.14	.09									.06	.16			0.53
Eaton's Ranch	Tongue	.15																		.13	.03	.13	.05						.25	.05			0.79
Echeta	Powder								.25												.30								.35				0.90
Elk Mountain	North Platte				.10									.07		.30	.02							.04			1.65	.10					2.28
Encampment	...do													T.		.40	.02										T.	T.	.60	.10			1.12
Ervay	...do								.02		T.		T.			.05				T.	.28	T.	T.				.02	.12	.08		T.		0.57
Fort Laramie	...do																														
Fox Creek Station	...do				.32							.03	.05				.16	.02	.09	.03	.02	.11	.02					.44	.35	.25	.01	.07	1.97
Gillette	Powder	.20								.36				T.			.08						.39						T.	.21	.19	T.	1.43
Hunters' Station	...do	.05	.14						T.	.64		.11					.20	.09			.25	.09							.19	.15			1.91
Hyattville	Big Horn																														
Jireh	Niobrara	.16			.01							.02	.08						.04	.40		.17							.02				0.90
Kirtley	...do													.17						.15		.13						1.69	.06				2.20
Kirwin	Big Horn				T.					.40	T.	.08	.30			T.		T.	.02	.02	.10	.10	.05				T.		.20	.08	.15	T.	1.50
Knowles	Belle Fourche	.21				.10			.14																					.15	.06	0.66
Lander	Big Horn				T.				T.		T.		.01				.09	.04	.04	.07	.07		T.					.01	.03	.02	.29	T.	0.67
Laramie	North Platte	.02		.17	.04							.26		T.			.52		T.	.09	.02	T.						.61	.20	T.		.04	1.97
Leo	...do			T.													T.	T.	T.	T.	T.	T.	T.						.36	T.			0.36
Lolobama Ranch	Big Horn		.05							.03									.03	.37	.44	.35					.10		.15	.30	.20		2.02
Lovell	...do		.02			T.				.04											T.	.25					T.			.08			0.39
Lusk	Niobrara												.02							.12													0.14
Manville	...do	.02			.03							.22									.42	.09	T.						.03				0.81
Moorcroft	Belle Fourche	.04								.03						.02	.12					.02							.08	.20			0.51
Moore	North Platte	T.	T.	T.	.33	.03							T.	T					T.	1.01	.12	.04	T.	.01				.02	.75	.06	.01		2.38
Newcastle	S. Fork, Cheyenne	.15								.41		T.								T.	.40								.28				1.24
Pathfinder	North Platte											T.					.07	.41				.57	.02					.01	.12		.13		1.33
Phillips	...do	.65		.02		T.			.02	.05											.05	.14	T.				.04	.56					1.53
Powell	Big Horn				.06																	.44	.05					.06		.03			0.64
Rawlins	North Platte				.14											.38		.07	.04	.07	.06	T.	T.					.02	.25				1.03
Riverton	Big Horn																																0.51
Saratoga	North Platte				.12							.05				.03	T.		.13					.08					.13	.20			0.76
Sheridan	Tongue	.03				.02			.12		T.		T.			.07		T.	T.	T.	.03	.27	T.				.01	.01		.10	T.		0.66
Shoshone Dam	Big Horn								T.	.07		.03	T.					T.	.83		.38	.42									.44	T.	2.17
Soldiers' Home	Powder	.33								.47		.05							.08		.03		.07						.04	T.			1.07
South Pass City	North Platte				.04								.05			.04	.26	.11	.03	.01	.05	T.	T.					.55	.12				1.26
Thermopolis	Big Horn																														
Upton	Cheyenne	.09							.40							.20					1.20									1.70				3.59
Valley	Big Horn				.06					.36								.20	.12		.11										.12	.08	1.05
Verona	Tongue	.26					T.															.15									.15		0.56
Wiant's Ranch	North Platte			T.	.25									T.	T.	.01				T.		.10					.22	.28	.16		T.	1.04
Wiley	Big Horn							.15			T.								.35		.02	.30								.15		0.97
Wyncote	North Platte	.04				.07			T.		.05									.03	.10							.86				1.15
Yellowstone Park	Yellowstone	.01	T.		.05								T.		.02	.02		.06	.07	.17	.42	.44					.01		.13	T.	.32	1.72
(1) Fountain Hotel	Madison		T.		.13														T.	T.		.08					.12			.34		.23	0.90
(2) Grand Canyon	Yellowstone				.12	T.							T.	T.				T.	.45	T.	.13	.29									.23	.20	1.51
(3) Lake Hotel	...do				.20	T.								.06						T.	.40	.50					.10			.27	.51	2.04
(4) Norris	...do	T.		T.								T.	.11					.41		.12	.44						.10	T.			.88	2.06
(5) Riverside	Madison													.55								.19										0.74
(6) Soda Butte	Yellowstone				.10														.08		.10	.10						.85		.06	.10	.31	1.70
(7) Sylvan Pass	Big Horn				.05														.05			.45						.10		.10	.30	.15	1.20
(8) Thumb	Yellowstone																					.25					.24						0.49
(9) Tower Falls	...do	.09			.05								.05			.05		.10	.19	.14	135	.05					.03				.40		2.45
(10) Upper Gey. Basin	Madison				.14										.20							.35						.17			.08		0.94
Montana.																															
Adams	Yellowstone					.39			.10	T.	.05	.10											.45	.06									1.15
Adel	Missouri	.60	.18		.05				.04		T.						.04				T.		.13										1.04
Agricultural College	Gallatin	.06				.19							.13		.01				.01	.08	.25	T.											0.73
Augusta	Sun			.27	.41				.46		T.																		.06				1.20
Babb	Milk			.10					.45	.02						T.						.05											0.62
Bald Butte	Missouri	.21	T.		.47				.13										.13			.02								.08			1.13
Big Timber	Yellowstone					.10			.15			.10									.35	.05		.20									0.95
Big Timber Creek	...do	.02			.10	.02			.25	.01		.02	.03								.15	.04	.21						.02				0.87
Billings	...do				T.	.16			.30			.20									T.		.05										0.65
Boulder Nursery	Jefferson	.22			.12	.10			.01												.06	.07	T.										0.58
Bowen	...do	.02	.05			.03										.31					.08		.12						.06				0.67
Bridger	Yellowstone																					.23											0.23
Broadview Exp. Sta	...do				T.	.05						.05									.02	1.00											1.12
Busby	...do	.82				.07			.01			.05									.02	.07	.12				T.		.04				1.20
Busteed	...do	T.			.18				.21	.01		.13							T.	.07	.11	.02							.02				0.75
Cabin Creek	Jefferson					T.								T.		.12			.12	.06	.28										.09		0.67
Canyon Ferry	Missouri	.49	T.		.11								.05			T.		T.			T.		.12						.03				0.80
Cascade	...do	.12	.06	.10	.54				.13		T.	.02		T.		T.	T.	T.				T.	T.								.04		1.01
Cataract Creek	Jefferson																																
Chessman Reservoir	Missouri	.50			.24					.10		.04	T.					T.			T.		.04								.13		1.05
Chester	...do																																
Chinook	Milk	.64	.04	.10	.21						T.												T.	.03							.03		1.05
Chouteau	Missouri																																
Clear Creek	Milk																																
Clemons	Missouri	.07	.04	T.	.87				.21		.03																		T.				1.22
Clyde Park	Yellowstone				.20				.10	.03			T.	.15					T.	.11	.16		T.										0.75
Copper	Musselshell	.08			.30	.19			.02										.04	.06		T.	T.						.01				0.70
Crow Agency	Big Horn					.23						.14									.11												0.48
Culbertson	Missouri																																
Cut Bank	Marias		T.	.20	.13				.21																								0.54
Decker	Tongue																																
Delpine	Musselshell	.12	.05		.06	.05		.01					T.					.05	.01			.02	.40										0.77
Denton	Missouri																																
Dillon	Jefferson	.08											.01			.01		.01					.02	.22									0.35
Dirty Creek	Musselshell	.11			.20	.15							.11										.17										0.74
Dry Creek	Missouri	.22			.04	.30			.01	.05								T.	.04		.02						T.		T.	T.			0.68
Dry Wolf Camp	...do	.22			.75				.10				.03		T.				T.				.01							.03			1.14

TABLE 2.—*Daily precipitation for July, 1910. District No. 6*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Montana—Cont'd.																																	
East Gallatin River	Gallatin						.25			T.				.07		.04			T.	.08	.15	.24					T.						0.83
Ekalaka	Little Missouri											T.									T.	T.		.02									0.02
Elkhorn	Jefferson	.19	T.	T.	.04	.16		T.	.01						T.	.10		T.	.02	.10	.07		.10							.02	T.	T.	0.81
Evans	Missouri																																
Fallon	Yellowstone	.66			.30	.13			.21	T.	.09	T.											T.										1.39
Family	Marias		T.						.22																								0.22
Fish Creek	Jefferson	.22				.16						T.	T.		T.	T.	.20			.16		.30							T.	T.			1.04
Fishtail Creek	Yellowstone								.10	.11			.01							.16	.15	.23	.19					.01					0.96
Flathead Creek	...do																																
Forsyth	...do																																
Fort Benton	Missouri				.45						T.													.30					T.				0.75
Fort Shaw	Sun		.80		.86								T.																				1.66
Foster	Big Horn		T.			.09			T.			.04										.24											0.37
Garneil	Musselshell	.20	.30		.40								T.					.02				.05											0.97
Glendive	Yellowstone																																
Goldbutte	Marias		.20	.02	.35			T.	.62									T.															1.19
Graham	Powder	.19	.14			.05			.08	.04				.28									T.										0.78
Grayling	Madison	T.														12					.03	.76				.06					.17	1.16
Great Falls	Missouri	.08	.13		.35				.19		T.			.53		.04		T.											T.	.01			1.33
Half Moon Pass	Musselshell	.70			.30				.01				T.					T.	.20	T.	T.		T.										1.21
Half Way House	Missouri	.25	.08			.32				.05						.02			.06	.01													0.79
Harlowton	Musselshell				.49								.18																				0.67
Havre	Milk	T.	.10		.40			.05	.11		T.											T.	.18						T.				0.84
Helena	Missouri	.22	T.		.21				.10				.04		T.			.02	T.		T.	T.	T.						.02				0.61
Highwood	...do	.10	T.		.55				.27		.05	.01											.05							T.			1.03
Homepark	Jefferson												.14								.24	.17											0.55
Huntley	Yellowstone																																
Jones Canyon	Gallatin	.14			.37				.16		T.		.03		.02			.03	.14	.02	.24		.02			T.							1.17
Jordan	Missouri								.25		.05											.03	.06										0.39
Lewiston	...do				1.07	.20			.11	.02				.01								.57	.22										2.20
Livingston	Yellowstone	.04			.02	.19			T.						T.			.04	.03	.09	.16												0.57
Lodge Pole Creek	...do																																
Lonetree	Missouri	.08			.33				.06		.09												.12									.05	0.73
Lost Horse Creek	Musselshell	.86	.01		.98				.03			.08	.05				T.	T.	.02		.10	.02											2.15
Malta	Milk	.12	.02	T.	T.	.30			.25	T.	.07											T.	.25	.14									1.15
Meadow Creek	Madison																																
Melstone	Musselshell	.04	.09		.01																		.63										0.77
Mildred	Yellowstone				*	1.46			.13	.06	.04					T.			T.	T.			T.										1.69
Miles City	...do	.10				.59					T.						T.					.05	.19										0.93
Moore	Missouri	.28			.78	.20			T.		.10		T.	.20																			1.56
Norris	Madison	.12				.27												.06	.02	.19	.02	.20											0.88
Nye	Yellowstone	.02			.03				.06	.08			.22					T.	.18	.14	.07	.31											1.11
Olsen Creek	Jefferson	.35			.24											.15				.06	.05		.12							.07			1.04
Pipestone Pass	...do	.36	.04		.15											.05		T.	.09	.05	.32	.04								.04			1.14
Poplar	Missouri					.29			T.		T.	.45												T.									0.74
Raymond	...do	.20	.23	.24				.10	.18																				T.				0.95
Red Lodge	Yellowstone	.06	T.		.10				.40				T.						.09		.10	.31					T.		T.			.31	1.37
Reese Creek	Gallatin		.10						.09											.18	.22												0.59
Renova	Jefferson	T.				.14				T.				.07		.02			.07	T.	.06	.08	T.							.07			0.51
Rimini	Missouri																																
Ryegate	Musselshell	.22				.05			.17											T.										T.			0.44
Sedan	Yellowstone																																
Springbrook	...do					.40			.19	T.	T.	T.											.63	.06							T.	T.	1.28
Stearns	Missouri	.51			1.10				.40																								2.01
Three Forks	Madison	.04	.02		.25									.10	.02				.25														0.68
Tokna	Yellowstone	.10				.41			.14			.09				T.							.40	T.									1.14
Townsend	Missouri																																
Trail Creek	Yellowstone	.08				.10							.05					.17	.08		.41												0.89
Utica	Missouri	.14	.03		.28				.13				.38									.11								.10	.06		1.23
Valentine	Musselshell		T.		T.	.24			.10	.06	.05												.16										0.61
Virginia City	Jefferson & Madison	.20				.17							.06					.15		.09	.37	.08	.53										1.65
Wall Rock Mountain	Missouri	.17			.30				.02	.35								.12	.07		.02	T.	.03							T.		.02	1.10
Warm Springs Creek	Madison																																
Willow Creek	Yellowstone																			.14	.31												0.45
Wolf Creek	Missouri	.20	T.	.12	.36				.10			T.			T.	.07		T.				T.	.03							.24	.05		1.17
Wolf Point	...do																																
Woodville	Jefferson	.09			.01	.13				.02									.06		.12		.05							.08	.07	.03	0.66
North Dakota.																																	
Aplin	Knife					.03			.10			.79		.20					T.				1.49	.04			T.					.11	2.76
Beach	Little Missouri	.02				.77			.07	.02		.28											.72							.12			2.00
Berthold Agency	Missouri					.14		T.	.03		.45	.01							.29			.57	.05								.03		1.57
Bismarck	...do					T.			.02	T.	.01	.38		.11					.18			.06					.03			T.	.14		0.93
Broncho	Knife					0.7		.05	.03														1.16							.07			1.38
Buford	Missouri					.29	T.		T.		.12	.24											.40								T.		1.05
Coal Harbor	...do					.02					.70	.17							.27				1.25				.14						2.55
Dickinson	Hart	T.							.01			.43	.01				T.		.20	T.			1.28							.14			2.07
Edgely	James								.03		.11	.01		.45																			0.60
Epping	Missouri					.30			.27		.16	.23							.02				.41							.33			1.72
Fullerton	James	.04				T.			T.					.29						T.			T.	T.					.18				0.51
Haley	Grand					T.			.50			.70	T.							T.									T.				1.20
Hettinger	Cannon Ball																																
Howard	Missouri	T.				.02			T.	T.	.72	.04				T.			T.				.45	.37				T.			.82		2.42
Jamestown	James								T.	.09		.20		.13					.01		.09							.14	.17			0.83
Lamoine	Missouri	.17							T.	.25		.57	.19							.17			2.35										3.80
LaMoure	James											.08			.70																		0.78
Mc Henry	...do						T.			.14		.59							.05			.50					.02						1.30
Manfred	Sheyenne	.53				.17						.78							.02				.59										2.09
Marmarth	Little Missouri					.51			T.	.02		.08										.01	.15					T.					0.77
Marstonmoor	James					T.	T.			T.		.30		T.						.07			2.56	T.	T.		.08						3.01
Medora	Little Missouri				T.	.23		T.			.28											T.	.62							.01			1.14
Melville	James								T.			.85							.09		.06		1.50					.07					2.57
Mott	Cannon Ball								.06			.13	.16	.08					1.49											.18			2.10
Napoleon	Missouri					T.	T.		.03			.10		.54					.13				T.					.10			T.	.07	0.99
New England	Cannon Ball					T.			T.			T.		T.					T.												T.	T.	T.	
New Salem	Heart					T.				.05		.42		.09					.14				.25					T.		T.	.12	1.07
Orange	Cannon Ball					.04								.05					.09														0.18
Palermo	Missouri																																
Schafer	Little Missouri					1.17		T.	.02		.06	.42					T.		T.											T.	.02		1.90
Steele	Missouri																																
Washburn	...do				.30	.04			.20	T.		.64							T.				1.94					.10				T.	3.22
Williston	...do				.01	.16			.08	.39	.01								.02				.38	T.							.04		1.09
Wishek	...do					.30				.07				.02						.17													0.56
South Dakota.																																	
Aberdeen [1]	James						.15			.45		.15			.20					.02			T.					T.	.10				1.07

TABLE 2.—*Daily precipitation for July, 1910. District No. 6*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
South Dakota—Cont'd.																																	
Academy	Missouri		.17			T.		.10		.28		.03		T.						.04	1.50	.52				.24							2.88
Alexandria	James		.20							.30				1.20							.40					1.02						3.12
Ardmore [1]	Cheyenne																																
Armour	Missouri	.40					.25			.50				.30								2.00						.30					3.75
Belle Fourche	Cheyenne		.43				.12			.20									.03	.23													1.01
Brookings	Big Sioux									.44		.69			.24									.18		T.		.13					1.68
Camp Crook	Little Missouri												.22							.15											.10	.05	0.25
Canton	Big Sioux						.07				1.61				.61						.12	T.	.42			.19		.07	T.				3.09
Cascade Springs	Cheyenne	.42								.95		.20								.04	.08	.35	.86						.24				3.14
Castlewood	Big Sioux		.08				.28			.25	T.	.53	T.		.04											.11		.23				.10	1.62
Centerville	Missouri						.63	.04		.38		.09			.41					T.	T.	1.07	.26	T.		.50		.04	.08				3.50
Chamberlain	do					.60		.06		1.40				.60						.16	.38							T.					3.20
Clark	James		T.				.56			.16		.33		T.	.14				.01							.02		.51					1.73
Cottonwood	Missouri	.03				.08		.50											T.	T.		T.	.05							T.	.05	.40		1.11
Crow Creek	do		.04			.28				.91		.22								.09	.81						.01	.06					2.42
Daviston	Grand									.03		T.		.09					.03														0.15
Deadwood	Cheyenne					T.				.45									.20		.50		.05						.20			T.	1.40
Deerfield	do	.31								.58							.16		.12	.03	.06	.03	.20						.73	.08	.19	T.	2.51
De Smet	James					.20				.45		.15			.20							T.				T.		.07					1.07
Dowling	Cheyenne		.33			.12			T.	.45											T.								.10		.05	T.	1.05
Dumont	do	T.				.27				.60									.14		.39		.46						.81	.03			2.70
Elk Mountain	do	.50							.35			1.23	.15						.43	.19	.10								.60			.06	3.61
Elk Point	Missouri						T.	.10	T.	.75					1.10								.10					.10					2.15
Englewood	Cheyenne					.07			.05	.35												.05							.15		.20		0.87
Eureka	Missouri					.01			.09	.05		.05								.19		.01						.13					0.53
Faulkton	James					.06		T.		.12		.14		.09						.09						.06		.08			T.	T.	0.64
Flandreau	Big Sioux	.08					.07			.60		.35			.37								.19			.02		.12					1.80
Forestburg	James		.13			T.		T.	.01	.75		.24		2.27					.04							.23		.20					3.87
Fort Meade	Cheyenne					T.			.10	.25									.22	.95											.10		1.62
Frederick [1]	James					.25			.16			.34								.04													0.79
Ganvalley	Missouri	.11				.12		.35		.76		.06		.30						.10	.26					.57		.10			.10		2.83
Greenmont	Cheyenne					.07			.50										.12		.50	.20							.46		.12		1.97
Greenwood	Missouri		.17			T.		1.68		.77		.38		.31							.14	T.						.27					3.72
Hardy Ranger Station	Cheyenne	.06	.20							.50										.12	.01	.15							.86	T.	.13	T.	2.03
Harvey's Ranch	do																																
Hermosa	do	.28							.42	T.									.07	.40		.01							.98		1.20	.06	3.42
Highmore	Missouri					.10	.05		T.	.32		.09		.11						.14						.02		.02			T.		0.85
Hill City	Cheyenne	.31	T.						.04	.68							.07		.06	.06	1.62	.01	.07						.81	.02	.07		3.82
Hopewell	do		.25							.27										.78													1.20
Howard	James																																
Howell	do		.01			.26			T.	.61		.30		.05	T.					.11						.24		.03			T.		1.61
Huron	do	T.	.04			.02			T.	.15		.05		.02						.05		T.		.03		.07		.05					0.48
Ipswich	do					.45			.14					.49						.12								T.					1.20
Kadoka	White	.15	.41			.01			T.	.53		.09								.02		T.	.01								T.		1.22
Kennebec	Missouri		.27			.17		.05		.59		.17		.07						.10													1.42
Kidder	James					T.						.25	T.	1.58						T.	T.	T.						T.				T.	1.83
Kimball	Missouri		.47			.33			.83	.41				2.38							.10		T.	T.		T.		T.					4.52
La Delle	James		.75				1.52			.25		.35		T.												.10						.15	3.12
Lead	Cheyenne					.05			.03	.38									.46	.28		.11							.21				1.52
Lemmon	Grand													.08					.02												.05		0.15
Marion	Missouri						T.	T.		.70		.30			.74					T.	T.		.17	.06		T.		T.	.92				2.89
Marston	do		.10			.47				.28		.07								1.10													2.02
Mellette	James						T.		T.	.09		.14		.16	.08					.08	.02		T.			.02		.14			T.		0.73
Menno	do	.09				.08		.10		.53		.11		.28						T.	T.		.17	T.		.05		.27					1.68
Milbank [1]	Minnesota		.37				.84			.08	T.		.34		T.							.07						.17	.04			T.	1.91
Mitchell [1]	James	.05				T.			.30			.03		.28						T.	.50			T.		.25	.60	T.	.03				2.04
Murdo	White		.10			.20				.30										.05													0.65
Oelrichs	Cheyenne	.75								.50										.49	.40	.40	.46						.10				3.10
Orman	do					.08			.04	.23											.41								.03		.09		0.88
Ottumwa	Missouri	T.							.55											.02													0.57
Pierre	do	.02				.01		.03	.14	.25		.25							.57	.29		.02				.04		.13			.13		1.88
Plankinton	James	.20				.29		.08	.35			.03		.43						T.	.38	T.		.03				T.			.10		1.89
Pollock	Missouri																			.23									.03				0.26
Rapid City	Cheyenne	.13			T.	.02			.34	.15							T.		.70	.31	.01	T.	2.77						.46		.83	.04	5.76
Redfield [1]	James						.75			.20		.38			.32											T.		T.				16	1.81
Rochford	Cheyenne	.91							T.	.65										.92		.06							.37	.01		.58	3.50
Rosebud	White		1.15		T.	.25				.31		.20		.01						T.	T.	.40							T.				2.32
Roslyn	Big Sioux					.50			.04	.57		.16		.10										T.				T.					1.37
Savoy	Cheyenne	T.				.05			.08	.30							.05			.15			.05					T.	.50			.10	1.28
Selby	Missouri								.15			.20								.25								.20			T.		0.80
Sioux Falls	Big Sioux						.80	T.		.60					1.20				T.	T.		.15			T.			.40					3.15
Spearfish	Cheyenne																																
Stephan	Missouri	T.	.66			.22		.10	T.	.38		.25		.11						.22						T.		.14			T.	.06	2.14
Tama	Cheyenne	.31				.08		T.	•	.20									T.		.03							T.			T.	.08	0.70
Vale	do								.16	.26											1.03								.12				1.57
Vermilion	Missouri						.07	.10	.04	.62		.03			1.48								.31	.03		.14			.44					3.26
Water's Ranch	Cheyenne	.02				.03			.11	.32													.05						.12			.08	0.73
Watertown	Big Sioux		.50				.72			.47		.50																.97					3.16
Wentworth	do					.47	.02			.57		.27		.60										.41				.13					2.47
White Lake	Missouri	.10				.45		.32		.28		.02		.81							.09					.09		.02					2.18
Winner	White	.32								.29									.16			.38							.16				1.31
Yankton	Missouri		.02			.67		.10	.15	1.63		.05		.18	.05					T.	.01	.41		.03		.04		.53					3.87
Minnesota.																																	
Pipestone	Big Sioux	T.	.67						T.	.63		.50			.45									.06		.08			.18	T.			2.57
Colorado.																																	
Akron	Republican	.08			.42								T.					T.				.25						T.	.61	.09	.02	1.47
Alma	South Platte																		18				.10						.14		.19		0.61
Arriba	Republican	.10	.04							T.	.06		T.	T.					.12		T.	.27		.02	.61				.93	.42			2.57
Auldhurst	South Platte				.02						.16		.20		.02		.03	.18		.33	.71	.07			.05				.02	.75	1.20		3.74
Boreas	do		T.		.04							.16					.22		.41	.08	T.	T.						.58	1.20	.75		T.	3.44
Boulder	do																																
Burlington	Republican		.01			.06							.60									.20							.90	.25			2.02
Cassells	South Platte																																
Castle Rock	do					.18					.06			.11				.19	.06		.54							.03	2.30	.39			3.86
Cheesman	do																																
Cheyenne Wells	Smoky Hill	.42	.08								T.		T.							T.		.36							1.55	.35			2.76
Cope	Republican				.90					.03													.12					.42	.61	.08			2.16
Corona	South Platte	T.									T.	T.						.40	T.		T.	T.		T.						.70	T.		1.10
Denver	do	T.			.01					T.			.10	T.			T.	.01		T.	T.	T.	T.		T.			T.	2.21	1.13	.01		3.47
Edgewater	do						.01						T.							T.								.01	1.36	.82			2.20
Estes P'k. Fish H'y	do		T.	T.		.10				T.			.02			T.	.50	.05	T.	.08	.50	T.						.20	.16	.76	.50	T.	2.87
Fort Collins	do	T.	T.			T.					T.		.01					T.			.03	T.	T.	T.				T.	.05	.78			0.87
Fort Morgan	do				T.	T.						.25										.19							T.	.11	.62			1.17
Frances	do				T.	.09				.04	.03		.16				.07	.11		.30	.40		.03					T.	.58	1.32	1.00	T.		4.13

TABLE 2.—*Daily precipitation for July, 1910. District No. 6*—Continued.

Stations.	River basins.	Day of month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Colorado—Cont'd.																																	
Fry's Ranch	South Platte				.09	.09											.04		.05	.02	.02	.16						.05	.09	.56	.05	.06	1.28
Georgetown	do		T.	.07	.03					T.		T.	.04	.07			.04	.18	.05	.13	.58	.05			T.			.26	.81	.40	.04	T.	2.75
Greeley	do			T.	T.						T.			T.						T.	T.	T.						T.	.12	.04	.08		0.24
Grover	do																																
Hartsel	do					.25				.02		.04		.02				T.	.01	.35	.35	.02	.01					.10	.08	1.25	.31	.56	3.37
Hawthorne	do	.05								.47			.01	.01							T.							T.	.51	.49	.04		1.58
Holyoke (near)	do				.34																	.50								.23		1.07
Idaho Springs	do									.06							T.	.02		.05	1.16		T.				.10	1.25	1.25	.41		4.30
Keota	do									T.										T.	.50								T.	T.	T.		0.50
Kossler	do																																
La Porte	do										.12										.25	.08						.18	.02	.22			0.87
Le Roy (near)	do		.02		.36						.07											T.							T.	.64	.44		1.53
Longmont	do																																
Long's Peak (near)	do												.75		.13		.10	.70	.08	.10		.10							.65	1.20	.28		4.09
Moraine	do																																
Platte Canon	do									.20	.14	.01																	.24	1.89			2.62
St. Cloud	do	T.			T.					T.	T.						.16			.10	.05	.05					.09	.62	.18			1.25
Sedgwick	do				.60						.25	.20		.10																.38	.25		1.78
Sill Mine	do													.30				.80						.30				.36	.80	.88	.48	.05	3.97
Silver Lake	do																																
Spicer (near)	North Platte				.53									.02							.52							.22	.20	.17	.03	T.	1.69
Sterling	South Platte					.05																								.22	.62		0.89
Waterdale	do										T.		T.	T.			T.					.24							.02	1.05	.03	T.	1.34
Westlake	do				T.					T.		.10								T.								T.	.26	.60	T.		0.96
Wray	Republican	.09			.16	.08						T.		.05								.13								.66			1.17
Yuma	do																																
Nebraska.																																	
Ainsworth	Niobrara		.38			.39				.34				T.						T.	.13	.27	T.					T.	.01	T.			1.52
Albion	Loup		1.10	.50			.30	.11		.05		.15																					2.21
Alliance	North Platte										T.	1.00					T.												.10	.90			2.00
Alma	Republican			.09			.18					.22		.85								.38												1.72
Anoka	Niobrara	.08	.05					.12		.20		.25		.63						.87	.80								.02					3.02
Ashland	Platte						.02	.20				.02			T.			T.			T.		.32	T.	T.	T.			.11	T.			0.67
Atkinson [II]	Elkhorn		.17	2.70				T.		.83		T.			.70						.17								.05				4.62
Auburn [II]	Little Nemaha			.10			.06		.25		.25		.04		.70							.02												1.42
Beatrice	Blue						.10	.32				.49			.76							.02	T.							T.				1.69
Beaver City	Republican											.24		.68								.61												1.53
Bellevue	Missouri		.11				.06	.16		.17		T.													.29		.21		.03				1.03
Blair	do		.08				.05	.13		.47		T.			.28			T.					.29		.05	.02		T.					1.37
Bloomfield	do		.25			.20		.10	T.	1.00				.30							.50	.43		T.			.05						2.83
Bridgeport	North Platte										.05							.35											.70				1.10
Brokenbow [II]	Loup	.10		1.48		.03							.35							.21		.02							.21				2.40
Burge	Niobrara	3.00										.85		T.								.18												4.03
Callaway	Loup	.62										.76								.13	.08													1.59
Cambridge	Republican	.05				.95						.12	T.	.20		T.					T.	.57				.17				T.				2.06
Canton (near)	North Platte									.01	.16	T.					T.				.43							.72						1.32
Columbus [II]	Loup						.26		1.20	T.			.12									.12				T.								1.70
Creighton	Missouri																																
Crete	Blue					.05		.43				.30													.04				.02	.03			0.82
Culbertson [II]	Republican	T.					T.					.10			.05							.04											0.24
Curtis	do	.16	T.									.04		.55	.08						.31													1.14
David City	Blue			.12			.04	.65		.10		.08			T.						T.	T.		T.		.63			T.	T.				1.62
Dawson	Great Nemaha		.35				.33	.27				.01			.11	T.							T.											1.07
Elsie [II]	Republican					.17		T.			T.	.13	.07								T.	.02	T.			.02		T.			T.		0.41
Enderslake	Loup																																
Ewing [II]	Elkhorn					.05		.09		.90		T.		.83							.17	.03							T.	T.				2.07
Fairbury [II]	Blue					.03		.32		T.		.19		.18		T.								T.						T.				0.72
Fairmont [II]	do						.06		.10				.43		.26								T.		T.									0.85
Fort Robinson [II]	Niobrara	.20				T.				.14		.62	.02	.01						T.	.05	.40								1.71		.04	3.19
Franklin	Republican																																
Fremont	Platte						.12	.12		.50		.06						T.					.27												1.07
Fullerton	Loup					T.		T.		T.		1.84																						1.84
Geneva	Blue							.04	.29		T.		.37			.30				T.			T.	T.					.02				1.02
Genoa	Loup																																
Gordon	Niobrara	.85						.43				.42								1.16	.40		.39							.34				3.99
Gosper	Republican					.17						.27		.63							.08	.40												1.55
Gothenberg	Platte	.03	T.	.05		.30						.70		.65							.10	T.							T.	T.				1.83
Grand Island [II]	do						.10		.06				.12										.09				T.			T.				0.37
Grant	Republican				.25																	T.								.15			0.40
Greeley	Loup																			.16	.01	.31							T.	T.	.02		0.50
Halsey	do		.24		.06							.20							.70			.15					.28	T.					1.63
Hartington [II]	Missouri						.22		.26		1.10		.12		.26	T.					T.		.42						.22	T.				2.60
Harvard [II]	Blue		.02			.10		.01	.05			.06	.32	.01								.11												0.68
Hastings [II]	do						1.02		.28				.37		.19								.17											2.03
Hayes Center	Republican																																
Hay Springs	Niobrara	T.			T.						.15		.47						T.	.72		.41		.03				.68					2.43
Hebron	Blue						T.	1.70	.08	T.		.83		.06							.01		.02	.03		T.				T.				2.73
Hemingford [II]	Niobrara	.23	.07									.15									.01	.01							.04	1.22				1.73
Hillside	North Platte		.11		.70	.91						.11								.06		.03								.60				2.52
Holdredge [II]	Republican			1.44			.15					.10	.49		.75	T.		T.				.07												3.00
Hooper	Elkhorn					.02				1.40				.96								.31					.04		T.					2.73
Imperial	Republican	T.			.45							10		.07								.05								.05	T.			0.72
Kearney	Platte	.30		.33								.75			.17						.05		.12							.05		.04		1.81
Kimball [II]	South Platte					T.							T.			T.					T.							T.	.66	.12	.11		0.89
Kirkwood	Niobrara	.68				.33		.07						1.47						.06	.18	.22							T.					3.01
Kowanda [II]	North Platte				.24												.02				.02								.18	.35				0.81
Lexington	Platte	.42		.13								1.19			.13						.20	.95								.10				3.12
Lincoln	do		.48			.16	.01	2.26		T.		.09		T.	T.						T.	.01		.01					.01	T.				3.03
Lodgepole	South Platte				T.	.06						.51		T.																.24	.31			1.12
Loup	Loup		.75	.85																.22						.42								2.24
Loyal	do									.28		.58								.41	T.	.11						T.		.10				1.48
Mc Cook	Republican					.42						.28																						0.70
Madison	Elkhorn						T.	.65		1.20		T.									.10	1.00	.40				.20							3.64
Marquette	Platte			T.		1.12	1.58		T.			.17			.02					.01	T.	T.	T.				T.		T.	T.				2.88
Mason City [II]	Loup		.60									.23								.12						.35								1.32
Minden	Blue		T.	.10		.03		T.				.87		.35						T.	T.	.12												1.47
Mitchell [II]	North Platte											.36										.50						.13	.44				1.43
Nebraska City	Missouri		.35				T.	.15				T.			.45																			0.95
Norfolk	Elkhorn			.15			.15	.52		.71		.04			.20			T.			T.	.10	1.15	T.		T.			.02					3.04
North Loup	Loup			.40		T.													T.		.12	.10											.10	0.72
North Platte	Platte				T.	.41						.14								.03		T.		T.				T.	T.	.02	T.			0.50
Oakdale	Elkhorn		.42			.94		1.04		.74		.07		.42		T.					.06	.19						T.	T.					3.88
Omaha	Missouri		.76			T.	.01	.14		.03		T.			.16				T.			.02	.27	T.		.51	T.		T.					1.90
Ord	Loup	.05		.37								.20								.23	.11	.06						.09						1.11

TABLE 2.—*Daily precipitation for July, 1910. District No. 6*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Nebraska—Cont'd.																																	
Palisade	Republican				.22											.14										.15							0.51
Pawnee City	Great Nemaha		.25			.10		.35							.62																	1.32
Paxton	South Platte					.64			.48			.04																	.12	.03		1.31
Plymouth ‖	Blue							.15		T.		.12			.05	T.																1.32
Purdum	Loup		.24			.17						.34								.39	.04	.32	T.									1.72
Ravenna	...do			.15			T.					1.40		T.						.05	.03		.03			.36			.18	.04			2.02
Redcloud	Republican			T.			.20	.02		T.		.70			.59					T.	T.		.67							T.		T.	2.18
Saint Libory	Loup					.52						.34									.14												1.00
Saint Paul	...do					.09						.22							.08	T.	.05												0.44
Santee	Missouri						.65	.06	.04	1.90		.13			.33						.03	.95							.41				4.50
Sargent ‖	Loup	.10		.50		T.										T.				.80									T.			1.40
Schuyler	Platte					.15		.21		.01		.07			.04						T.					.43							0.91
Scottsbluff	North Platte									.03	T.	T.	T.	T.			.06		.02	T.	.07	.16							.64	.16	.01		1.15
Seward ‖	Blue		.40			.50		1.60				.15																					2.65
Sheridan	Loup					.16		.03		.07		.04	T.								.49	.19											0.98
Sidney	South Platte				.04									.18							.02									.66	.37		1.27
Springview	Niobrara		.30			.15				.35					.10						.33	.15											1.38
Stanton	Elkhorn						.10	.13		.88					1.40								.94										3.45
Stratton ‖	Republican	.05																						.76					.50				1.31
Superior ‖	...do							.10					.55										.75										1.40
Tecumseh	Great Nemaha						.12	.15		.20				.31																			0.78
Tekamah	Missouri		.10	.05			.15	.24		.45					.59			T.					.55										2.13
Tobias	Blue						.08	.15							.25					T.										.04			0.52
Turlington	Little Nemaha		T.			.15		.25				.07			.18			T.						T.									0.65
Valentine	Niobrara	.89				.54				.28		.07		.23						T.	.02	.03	T.				.07	.01	T.				2.14
Wahoo	Platte						.10	.08	.07													.33				.11							0.69
Wakefield	Elkhorn					.25		.25		.48		T.			.99							.34		.03		T.			.02				2.36
Walthill ‖	Missouri																																
Watertown	Platte	.10										.90										.20				.20							1.40
Wauneta	Republican				.15						.05			.35															.22				0.77
Weepingwater	Missouri		T.				.16	.43				.05			.06									.03					T.	T.			0.73
Wellfleet (near)	Republican																																
Westpoint	Elkhorn			.72		T.	.43			1.20		T.			.46							1.07				T.			T.				3.88
Wisner	...do			T.		.25		.20		.75		T.			.24								1.47			T.	T.						2.91
York	Blue		.21			2.47	.03					.75			T.			T.		T.	T.		T.	T.					T.	T.			3.46
Iowa.																																	
Afton	Grand		T.					.05		.01					.09						T.		.05			.67	.09						0.96
Allerton	Chariton		.53							.12					.61	.53					T.		T.			.23	.27		T.	.20			2.49
Alton	Floyd						1.02		T.	1.01			T.		.30	.08					T.	.20	.75				.06		.42				3.84
Atlantic	Nishnabotna		T.					.06		.31					.20								.13	T.		.09	.03		T.				0.82
Audubon	...do		.21				.04	.07		.16					.57						.02	.18		.02		.11	.09						1.47
Bedford	Missouri							.06		.20		T.			.90			T.					.13										1.35
Centerville	Chariton									.25					.38	T.	T.									.28	1.83						2.74
Charlton	...do		.52							.12				.25									T.			T.	.70		T.				1.59
Clarinda ‖	Nodaway			.06					.08		.16		T.		.85	.62							.22	.18	T.								2.17
Corning	...do		.25					.18		.35		T.			.38			T.					.10	T.		.72			T.				1.98
Corydon	Chariton		.13							.85					.11	.09					T.		T.			.04	.67		T.				1.89
Council Bluffs	Missouri																																
Creston ‖	...do			.11					.06		.03				.12	.26							.02	.09			.86						1.55
Cumberland	Nodaway		1.08					.06		1.32				.02									T.	T.		.01			.01				2.50
Denison	Missouri						.19	.05		.33					.74								.48	.03		.01	.01		.08				1.92
Elliott	Nishnabotna		.23					.20		.53					.23			.12					.09				.02						1.42
Greenfield	Nodaway		.26					.02		.32					.15						.14		.09	T.		.32							1.30
Harlan	Nishnabotna						.21	.08		.42					.20						T.		.17	.01		.14			.02				1.25
Hopeville	Grand		.18							.09					.25	.31					T.		T.	T.		.78	.09		T.	T.			1.70
Inwood	Big Sioux						.05	T.		1.53		.11			.83					T.	.11	T.	.58	.04		.14		.03	.11				3.53
Lamoni	Grand		.14							.08					.14	.98									.08	.59			.58				3.49
Larrabee	Little Sioux					.35				1.30					.24						.33	T.	1.04	T.		T.		.21					3.47
Le Mars	Floyd					.01	1.10	.01		1.20		T.			.55								.65	.09		.71			.86				5.18
Lenox	Missouri		T.					.10		.39					.71								.25	.10		.15							1.70
Leon	Grand		.10							.66		T.			.15	1.51								T.		.65	.20						3.27
Little Sioux	Little Sioux						.12	.22		.49					.21			.02					.51	.03		.02							1.62
Logan	Missouri		1.13				.02	.16		.58					.28			.09					.28	T.		.22			.02				2.78
Massena	Nodaway																																
Mount Ayr	Grand							.07		1.50		T.			.24	1.10							.05	.05		.38	T.		T.	.07			3.46
Odebolt	Missouri									.43					.30						.05		.60	.06		.04			.24				1.72
Onawa	...do			.20			.18	.20		.24					1.10								.91	T.			.12		.03				2.98
Pacific Junction	...do		.52					.14				T.			T.			T.					.20	T.		.10			T.				0.96
Rock Rapids	Big Sioux									.80					.50								.25						T.				1.55
Sheldon	Floyd						.65			1.60		.02			.20					T.			.35	T.				.25	.30				3.37
Sibley ‖	Big Sioux						.35			.79	.19		.02		.82	.03							.54		.06		.10		.20				3.10
Sioux Center	Floyd						.25	T.		1.37		.03			.98						.22		.96	T.		T.			.25				4.06
Sioux City	Missouri					.40		.13		.44		T.		.08	2.03							.50		.04				.07	T.				3.69
Thurman	...do		.48				T.	.18				.08			.22			T.					.12	T.		T.				T.			1.08
Washta	Little Sioux					.55		T.		.15					.55					T.	.60		.10	.04				.28					2.27
Woodburn	Chariton		.17				T.	T.		.39		.12			.06	T.					.01		.01	T.		.06	.25		T.				1.07
Kansas.																																	
Abilene ‖	Smoky Hill					.36		.24				1.12		.04								.12		T.						T.				1.88
Agricultural College	Kansas		1.01				.56	2.05				.92	.05		.47								.32							.02	T.			5.83
Alton	Solomon			T.		1.08	.32	T.				1.03			.03						T.		.37							T.		T.		2.93
Atchison	Missouri		.20				T.	.20					.20		.35				.70				.20											1.85
Baker ‖	...do			.10			T.		T.				T.		.65			.50					T.	.20	.20								1.65
Beloit ‖	Solomon					.17						.70		.90																	.05			1.82
Blakeman	Republican	.10				.01								.17								.30								.45				1.03
Blue Rapids ‖	Blue						.10		.20			2.11			.14								.10		T.									2.65
Centralia	...do		.17				.09	.19				.19			1.55								.27		.28				T.					2.74
Chapman	Smoky Hill		T.				.25	.45				.40	.25		.23			.25					.20	T.						T.	T.			2.03
Clay Center	Republican						.25	.20				.95			1.00																			2.40
Colby	...do					T.						T.						T.												.01	T.			0.25
Concordia	...do					.11	.03	T.				.34		.39	.65			T.		T.	T.					T.				.02				1.54
Densmore	Solomon					T.						.62		.04								.72						T.	T.	T.	.08			1.46
Dresden ‖	Republican	.05					.72						.32										.19				.01			T.	T.	T.		1.29
Ellsworth	Smoky Hill						.35	T.				1.20																						1.55
Enterprise	...do						.21	.63				.48	.22		.04		T.	.75					.11	.05										2.49
Eskridge	Kansas		.50				.25		.46			.60	.10		.55	.07		T.					T.				T.			T.				2.53
Farnsworth	Smoky Hill		.01			.36		T.				T.	.03										.62		.03						T.			1.05
Ft. Scott ‖	Marmaton		.21	.80	1.07				.80			1.03			.17	.41				T.				.03	T.	T.					T.			4.52
Frankfort	Blue		.14				.05	T.	.14			.35			.75										.13				T.					1.56
Garnett	Marias de Cygnes		1.17	.10			.02		.56		.16		.41		.28	.17			T.				T.			.11								2.98
Goodland	Smoky Hill																																
Gove	Blue					.79						.01										.52												1.32
Hanover	...do					.27		1.45				.47			.39					T.					.14				T.					2.72
Harrison	Republican						.12			T.		.41			1.16								.38			T.			.03					2.10
Hays ‖	Smoky Hill	.10					1.72		.02				.58									.03												2.45

TABLE 2.—*Daily precipitation for July, 1910. District No. 6*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Kansas—Cont'd.																																	
Hill City	Solomon																																
Horton	Kansas			.06			.03	.18				.05			1.02			.10					.17	T.						T.			1.61
Hoxie	Solomon						.05	T.				.65											.40										1.10
Jewel	Republican						T.					.74			1.07															.14			1.95
Lawrence	Kansas	1.32						.27	.07	T.			.99	.29	.19	.45		.02					.01										3.61
Lebanon	Solomon						.12					.54		.90									.26						.09	T.			1.91
Lindsborg	Smoky Hill						.42	.09					.79																				1.30
Mankato	Republican						.06					.58	.04		.88						T.		.20							.11			1.87
Minneapolis	Solomon					T.	.68	T.				1.00	.20		.25			T.			T.		T.	T.						.02	T.		2.15
Moran	Marmaton		.75	.12	.06		.01		.54				.44		T.							T.		T.						T.			1.92
Natoma	Saline		.03			.14						.04																					0.21
Norton	Republican					.06						.22		T.	.07							.28	T.								T.	.23	0.86
Oberlin	do					.25						T.		.06								.26	.11			.13				.07			0.88
Oketo	Blue						.01	.38				.12			.35					T.	T.			T.	.06					T.			0.92
Olathe	Kansas		T.					.35	.50	T.			.69		.63	.46							T.		T.					T.			2.63
Osage City	Marias de Cygnes		.18			.65		.55		.15		.70		T.	.18		T.														T.		2.41
Ottawa	do						.01		1.50	.05		.75		.16	.01									T.									2.48
Phillipsburg	Solomon			T.			.20	.27				.12			.39						T.	T.											0.98
Pleasanton	Marias de Cygnes		1.00	.28	.15			.85		.15			.42			.15			.07					.04	.03								3.14
Russell	Smoky Hill			.08			.63	T.					.88										T.										1.59
Russell Springs	do					.24			.10			.50		.05								.55											1.44
Saint Francis	Republican					T.								T.								T.	.14							.54			0.68
Salina	Smoky Hill						.28		.01			.50	.33											T.						T.			1.12
Scott	White Woman	.47						.04				T.	.60										1.01										2.12
Smith Center	Solomon													1.18								.28								.08			1.54
Topeka	Kansas		.02				.02	.38		T.		1.74			.57			T.					.05			.01				.01			2.80
Valley Falls	do		.23					.10				.84			.80				T.				.12		.01					T.			2.10
Vinland	do		.19					.60			T.				.69	.37		.05															1.90
Wakeeney	Smoky Hill	.08			.10		.64	.19				.41	.10										.18	T.							T.	.09	1.79
Wallace	do	.82										.01	T.									.18	.35						T.	T.	.08		1.44
Wamego	Kansas		1.25			.35	1.40					1.20			.70			T.					.23							.10			5.25
Missouri.																																	
Amoret	Osage		.64	.22	T.				1.02		.29	T.	.60			.25			T.					T.	.40								3.42
Appleton City	do	.05	.80	.36					1.96		.05					.30			.12				.43	.05									4.12
Arlington	Gasconade		.30	.70	.50						2.10	.38	1.88			.82	1.84		T.							T.							8.52
Arthur	Osage		.81	.82	T.						.07		.30						.48				T.	.11									2.59
Avalon	Grand		.35							.55	.55				.28	3.00																	4.73
Bagnell	Osage		.20	.10	.20						1.20	.90				.88	.90		.20					.10		.20							4.88
Bethany	Grand		.14							.50								.97															1.61
Bolivar	Osage	.35	.20	.13	.02								.08			.55	.38		.04				2.00								1.22		4.97
Boonville	Missouri			.20	.06						1.74					1.76							.14	.30					T.				4.20
Brunswick	Grand			.18				.06			1.58					3.85								.10		.38							6.15
Clinton	Osage		1.83	.90	.05						.63	T.				.75			.13					.93	.05								5.27
Columbia	Missouri	T.	.12	T.						.66	.76	.06			.73	1.67		1.13					T.	.12	T.	T.			T.	T.			5.25
Conception	do		T.				T.								.16							.04		T.	T.	T.			T.				0.20
El Dorado Springs	Osage		.36	1.31	.20							T.	T.			.29								.80									2.96
Fairport	Grand		.30								32				.15													T.					0.77
Fayette	Missouri		.28								50	1.40				3.00		.50					T.	.90	T.				T.				6.58
Fulton	do		.33								1.31				.33	2.21		1.03									.44						5.65
Glasgow	do										1.44	.02				3.20								.01									4.67
Grant City	Grand			T.			T.	T.		T.	T.	T.	T.		.23	T.							T.	T.	T.	.33	T.			T.			0.56
Harrisonville	Osage			T.					.32		.68	T.	.08		T.	.34			T.					.23	.10	T.					T.			1.75
Hazelhurst	Grand		.40							.60	.10	T.			.53	1.94							T.			.03							3.60
Hermann	Missouri		.04	1.12	.86						.94	.22	.02			.90	1.00		.98						.02	.02	1.08	1.42			T.			8.62
Houston	Gasconade	.15	T.	.80	.36		T.			.15	.60	.20	.55		1.00	T.	2.13		.35					.34							2.00			8.63
Huntsville	Chariton																																
Jefferson City	Missouri	.11	.27	.30							3.00	.35	.10			1.55	1.10		.20						.01	.01								7.00
Kansas City	do		.32					.08		.19	.01	.63			1.23			.46				.02		.05									2.99
Kidder	Grand			.55							.38		.08		.02	.57																	1.60
Lamonte	Missouri		.04	.15						.34	1.04					2.06		.13	.93				T.	.05	.10				T.				4.84
Lebanon	Osage					.35					.80	1.30				.85	.68							.85						.48			5.31
Lexington	Missouri			.15							.96					3.15			.02					.01									4.29
Liberty	do							T.	.29	.30		.61			.62	2.90																	4.72
Lockwood	Osage	.20	.60	1.13										T.		T.	.65		.70				.77								1.22		5.27
Marshall	Missouri		.25	.03						.30	2.53				.14	5.10		T.						.24		T.			T.				8.59
Marshfield	Osage		.61	.47							.25	.12	.35	.10			.95						1.26						.40	1.50			6.01
Maryville	Missouri							T.							.47	.15							.10	.07		.09				T.			0.88
Mount Vernon	Osage																																
Nevada	do	.60	.61	.65					.13				.25			.14	.05						T.	.51	T.								2.94
Oregon	Missouri		.06				T.	.03		T.		T.			.18								T.	.20									0.47
Osceola	Osage		.30			.55			.02							1.27							.85	.15	.05								3.19
Pattonsburg	Grand			.18							.55		.01			.90								T.		.25							1.89
Rolla	Gasconade		.11	.02	.07						2.78	.03	.49	.01		.88	.05		.22						.15					T.			4.81
St. Charles	Missouri		.76	.07	.92	.05	.06				.46		.66		T.	1.41		.17							.06		2.03			.62			7.27
St. Joseph	do		.08				T.	.09		.02		.03			.11			T.					T.							T.			0.33
St. Louis	Mississippi	.01	.54	.55		.44	.07			.04	.09	.02				.51	.02								.04	.34	.57			.97			4.21
Sublett	Charitan		.75												2.50											2.50	2.50			2.60			10.85
Trenton	Grand		.58							.97		T.			1.54							.02				.03	T.						3.14
Unionville	Charitan			.40	T.						.36		T.			.90	T.				T.		T.				1.90	.10	T.	.90			4.56
Warrensburg	Missouri		.11	.10					T.	T.	.91	T.				1.97			.03			T.	.87	.06					T.				4.05
Warrenton	do			.41	.85	.01					.83	.05	.04	.05		.98	.20		.28							1.42	1.28		.04				6.44
Warsaw	Osage	.18	.76	.42	.13						.73	T.				1.76			.18				T.	.38	.09						T.			4.63
Wheatland	do	.41	.10	.40							.05	.15				.85																		1.96

TABLE 3.—*Maximum and minimum temperatures at selected stations, July, 1910. District No. 6, Missouri Valley.*

Date.	Wyoming.																Montana.											
	Basin.		Cheyenne.		Fort Laramie.		Lander.		Newcastle.		Pathfinder.		Sheridan.		Yellowstone Park.		Billings.		Dillon.		Havre.		Helena.		Lewiston.		Malta.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	.....	.....	83	50	.....	.....	86	50	90	58	89	57	83	56	78	44	88	50	83	50	79	60	74	50	84	49	88	63
2...	.....	.....	76	46	.....	.....	90	49	85	58	92	57	90	62	81	43	102	56	84	52	86	61	79	50	82	50	92	56
3...	.....	.....	87	51	.....	.....	89	50	90	65	88	56	100	65	80	49	81	49	87	54	91	61	86	52	94	50	90	62
4...	.....	.....	87	59	.....	.....	80	57	95	65	84	63	86	58	72	49	83	56	85	60	72	57	67	53	86	50	100	67
5...	.....	.....	78	51	.....	.....	76	52	95	64	86	58	76	48	67	46	91	51	86	64	80	52	74	51	76	46	82	57
6...	.....	.....	84	44	.....	.....	84	42	90	50	83	50	86	42	74	40	88	50	90	66	82	52	82	51	81	45	83	53
7...	.....	.....	86	56	.....	.....	89	44	90	65	88	53	86	48	80	49	80	49	88	64	79	55	78	61	76	49	80	60
8...	.....	.....	86	53	.....	.....	86	54	88	60	92	50	78	50	70	48	78	56	86	60	70	53	70	45	67	45	82	53
9...	.....	.....	59	46	.....	.....	68	47	83	60	86	46	72	45	69	40	89	42	89	56	77	51	73	41	72	37	70	46
10...	.....	.....	76	43	.....	.....	84	42	80	45	91	48	83	40	78	39	76	43	88	40	68	50	74	50	75	43	75	47
11...	.....	.....	68	52	.....	.....	74	48	70	50	81	48	72	47	72	45	88	52	87	41	72	47	76	50	78	45	67	45
12...	.....	.....	77	50	.....	.....	81	45	85	54	88	53	86	42	79	43	98	45	89	37	89	50	81	51	93	49	73	50
13...	.....	.....	86	54	.....	.....	91	46	92	56	92	60	92	50	83	44	106	52	87	40	96	60	93	55	89	42	97	59
14...	.....	.....	93	55	.....	.....	94	50	102	65	98	62	102	52	87	52	94	52	89	58	100	57	90	59	97	55	103	70
15...	.....	.....	92	60	.....	.....	89	70	102	72	91	65	90	56	79	54	95	59	94	68	92	67	86	66	87	64	94	56
16...	.....	.....	88	61	.....	.....	89	60	96	65	88	64	89	59	85	46	103	55	91	70	96	54	92	56	92	49	96	67
17...	.....	.....	89	55	.....	.....	88	61	95	60	95	59	94	56	85	58	94	66	90	60	102	70	93	61	98	68	102	72
18...	.....	.....	89	58	.....	.....	93	59	102	70	93	61	94	61	80	55	93	51	88	56	90	64	84	65	82	58	94	57
19...	.....	.....	90	62	.....	.....	89	58	94	64	97	60	94	65	75	52	96	59	88	54	95	61	90	63	93	53	95	61
20...	.....	.....	86	58	.....	.....	88	56	95	60	99	62	91	62	80	55	94	56	86	48	90	52	79	58	88	49	97	55
21...	.....	.....	84	58	.....	.....	91	57	94	62	88	60	90	64	76	52	100	59	87	48	88	66	88	58	84	55	92	71
22...	.....	.....	90	60	.....	.....	90	51	96	65	91	51	97	54	78	50	88	54	85	40	92	58	81	57	87	53	87	57
23...	.....	.....	87	58	.....	.....	86	45	85	58	87	57	86	47	74	43	96	54	87	39	79	56	79	52	84	55	92	52
24...	.....	.....	89	50	.....	.....	92	46	87	60	92	51	96	45	81	47	92	45	88	46	93	48	89	54	90	43	78	47
25...	.....	.....	91	59	.....	.....	94	54	92	64	96	55	87	58	84	46	99	58	83	48	85	47	89	54	86	42	90	62
26...	.....	.....	95	62	.....	.....	89	54	97	54	94	60	91	61	80	48	83	50	85	45	92	54	90	56	80	47	92	55
27...	.....	.....	86	61	.....	.....	86	57	96	75	94	54	80	57	80	49	82	54	86	47	82	44	84	48	83	42	94	51
28...	.....	.....	79	57	.....	.....	81	62	78	60	78	60	85	51	79	51	88	52	85	49	78	48	78	53	73	41	80	53
29...	.....	.....	73	58	.....	.....	78	59	80	55	82	57	76	47	74	50	96	60	81	44	81	49	82	58	80	50	80	52
30...	.....	.....	80	55	.....	.....	82	49	87	58	83	54	87	52	78	50	98	52	80	40	88	54	90	52	82	45	82	60
31...	.....	.....	84	55	.....	.....	90	50	96	58	97	55	95	51	80	50	96	52	82	44	96	55	91	58	94	54	93	52
Mns	.....	.....	83.8	54.7	.....	.....	86.0	52.4	90.5	60.5	89.8	56.3	87.5	53.0	78.0	48.0	91.5	53.2	86.6	51.2	85.8	55.3	82.6	54.5	84.3	49.1	87.7	57.0

Date.	Montana.				North Dakota.										South Dakota.													
	Miles City.		Poplar.		Berthold Agency.		Bismarck.		Dickinson.		Jamestown.		Williston.		Aberdeen.[H]		Chamberlain.		Huron.		Kadoka.		Lemmon.		Pierre.		Rapid City.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	88	64	89	56	79	61	82	64	81	57	75	62	80	60	93	64	92	68	90	65	91	59	86	59	92	68	83	58
2...	92	62	90	61	91	56	86	56	87	57	79	53	88	62	86	61	82	64	82	65	89	61	83	60	82	67	82	58
3...	102	70	98	69	94	61	89	61	89	59	84	60	91	66	89	55	90	72	85	58	88	59	93	52	88	61	89	62
4...	84	71	92	68	97	68	94	62	94	59	83	52	88	66	91	54	92	69	85	54	100	67	101	66	99	65	97	66
5...	80	56	82	58	80	59	84	59	86	58	81	67	76	59	94	57	92	60	92	62	89	63	95	60	90	64	81	60
6...	90	57	87	53	90	49	89	50	86	49	81	51	88	53	93	51	90	62	88	55	89	53	91	50	91	57	89	57
7...	85	62	83	58	89	49	90	59	86	51	80	55	81	59	94	58	90	62	85	56	96	60	89	57	95	68	89	60
8...	76	56	69	53	80	50	80	54	77	53	76	49	70	52	85	58	90	65	83	59	91	60	83	55	89	60	82	53
9...	74	52	75	48	76	45	73	48	71	45	75	40	73	45	78	55	84	56	77	56	75	53	74	49	75	58	70	53
10...	88	51	68	47	76	41	78	49	76	46	72	41	64	46	84	45	84	52	84	50	84	60	84	45	86	52	82	54
11...	78	52	74	49	74	49	66	52	67	50	71	48	69	51	68	46	73	62	66	57	72	54	70	47	74	58	69	50
12...	90	55	86	45	83	41	79	46	79	41	78	44	78	45	80	48	80	60	78	46	80	46	80	47	78	50	80	46
13...	98	60	98	54	.....	.....	88	58	93	51	75	44	92	54	80	52	92	60	85	55	95	63	91	58	94	65	93	59
14...	108	64	106	58	107	60	104	59	103	61	90	48	102	60	91	55	89	56	87	59	101	60	106	60	97	60	99	66
15...	99	76	103	64	103	53	107	68	107	79	104	60	99	63	100	56	95	63	91	60	103	62	106	66	102	65	101	68
16...	96	72	94	60	95	64	95	72	94	70	94	63	89	63	102	65	99	63	100	64	99	65	95	66	98	71	88	70
17...	100	64	95	57	93	51	89	65	88	61	84	55	88	56	85	68	87	58	78	61	92	60	88	60	87	64	92	62
18...	98	76	97	74	99	64	94	61	95	64	85	48	90	64	90	52	89	56	84	54	99	63	95	62	95	65	98	64
19...	96	71	98	55	91	58	85	66	85	62	85	64	88	52	91	60	92	65	88	62	93	67	89	66	91	65	87	61
20...	94	67	93	55	.....	.....	94	55	88	59	82	51	88	59	98	61	99	67	90	69	97	67	97	61	95	71	91	68
21...	94	70	89	61	91	57	83	57	82	54	81	50	88	54	85	60	88	66	86	61	85	64	78	61	82	66	79	67
22...	103	61	100	61	94	52	90	54	91	56	94	48	94	64	90	52	85	62	84	62	82	61	89	58	86	60	87	59
23...	84	51	72	54	84	57	81	61	87	53	88	65	72	58	89	60	89	70	89	68	91	67	84	61	90	68	87	61
24...	98	54	92	49	90	46	88	59	87	48	95	50	86	54	91	60	92	64	89	58	97	57	96	56	95	66	94	57
25...	89	68	90	60	81	54	83	60	83	53	89	55	78	54	92	50	94	68	91	59	98	70	85	61	97	70	89	61
26...	98	64	96	52	89	42	90	46	88	49	83	61	88	47	87	50	90	62	89	53	98	57	89	56	91	61	93	58
27...	84	62	84	59	81	59	90	59	83	49	95	46	78	57	77	52	88	67	79	62	91	70	88	71	86	70	85	71
28...	89	58	83	48	85	40	90	47	85	44	89	46	79	48	87	62	90	58	88	56	87	65	87	49	89	65	73	62
29...	86	56	84	48	82	43	80	53	78	49	85	47	79	48	84	54	88	59	85	55	87	56	81	54	86	65	80	61
30...	95	64	94	56	85	40	78	48	78	52	77	45	85	46	82	50	88	55	84	52	90	60	82	51	82	61	85	57
31...	100	58	89	54	90	55	87	59	86	51	84	59	84	52	100	49	96	60	96	58	100	62	91	53	97	62	86	60
Mns	91.5	62.1	88.7	56.3	87.9[b]	52.6[b]	86.6	57.0	85.8	54.5	83.4	52.5	83.6	55.4	88.3	55.5	89.0	62.3	85.7	58.4	91.3	61.1	88.6	57.3	89.6	63.5	86.5	60.2

TABLE 3.—*Maximum and minimum temperatures at selected stations, July, 1910. District No. 6*—Continued.

Date.	South Dakota.						Colorado.				Nebraska.																	
	Sioux Falls.		Watertown.		Yankton.		Denver.		Wray.		Alma.		Bridgeport.		Grand Island.		Hay Springs.		Hebron.		Lincoln.		North Platte.		Oakdale.		Omaha.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	94	64	90	62	94	68	86	54	91	61	91	64	87	60	90	64	85	56	90	62	93	62	86	60	96	63	93	70
2...	94	61	82	63	88	64	83	54	87	54	94	64	81	51	90	62	80	52	87	62	92	65	82	58	90	61	93	66
3...	90	53	82	55	87	65	92	55	92	65	89	63	85	54	84	64	85	48	86	61	87	64	84	58	86	65	86	69
4...	90	62	85	51	89	57	94	62	98	69	94	56	94	58	90	60	94	58	90	57	91	60	95	61	91	57	88	64
5...	92	57	94	66	63	63	84	55	93	57	100	65	87	55	92	66	86	57	92	65	92	67	93	64	93	66	89	69
6...	84	65	85	56	85	60	91	55	94	56	90	63	82	47	84	62	97	50	86	66	88	65	87	55	84	58	84	71
7...	86	61	85	59	80	60	92	59	94	66	89	58	95	48	82	62	95	48	85	53	72	57	92	61	80	55	78	64
8...	84	58	84	58	91	63	92	62	95	61	88	58	87	51	91	56	91	48	87	57	92	57	95	57	88	56	92	63
9...	89	60	76	56	73	69	70	51	88	59	80	65	72	53	75	65	84	52	76	66	77	61	74	55	72	57	77	64
10...	92	62	81	50	82	55	82	51	87	61	89	49	82	40	86	53	83	48	81	53	85	56	84	47	82	51	84	59
11...	89	60	78	53	75	55	75	57	84	60	85	60	72	56	75	60	78	48	76	58	83	62	73	55	74	58	82	66
12...	80	52	79	46	77	51	83	57	81	54	80	62	79	48	76	56	78	40	75	58	78	58	78	48	78	50	78	60
13...	91	60	80	51	84	57	88	57	99	61	90	61	90	54	84	56	85	59	82	54	85	54	94	61	85	54	85	62
14...	92	62	89	59	84	63	96	60	97	66	95	64	95	48	94	66	98	52	89	54	90	67	97	59	85	60	85	69
15...	93	65	94	59	88	62	97	59	98	61	92	65	97	47	88	66	99	63	88	68	90	66	95	57	88	62	88	67
16...	95	68	98	65	98	68	96	64	98	67	94	63	96	55	95	60	97	53	90	64	96	66	96	55	96	61	97	72
17...	89	60	85	51	82	66	92	65	98	68	99	63	92	57	93	75	95	57	95	69	96	73	95	65	87	68	89	73
18...	82	59	91	61	84	57	95	63	96	67	85	65	94	75	84	61	95	62	83	65	83	62	88	64	85	57	83	64
19...	83	62	90	64	86	64	94	66	97	67	84	60	92	62	82	57	90	64	78	56	81	58	87	60	84	56	83	64
20...	82	66	92	68	88	68	89	66	94	64	87	60	93	61	86	64	90	62	80	60	85	63	90	62	85	64	86	66
21...	82	64	84	64	89	68	92	65	98	62	95	64	90	66	95	60	81	62	92	61	96	65	87	64	94	65	95	70
22...	86	69	84	64	84	68	94	65	99	60	91	63	98	59	94	64	90	60	91	70	92	72	92	58	89	65	89	71
23...	88	67	90	68	89	66	101	64	100	67	98	68	.....	.....	93	68	90	65	95	71	95	72	91	65	88	62	94	74
24...	83	68	88	57	91	62	98	60	94	64	95	62	95	43	95	63	93	48	95	64	97	62	95	57	91	57	93	70
25...	86	68	93	55	88	62	95	63	104	63	103	65	101	56	106	71	90	60	102	70	105	68	104	63	92	60	92	69
26...	82	66	88	55	87	64	100	61	102	57	100	65	104	51	96	66	95	54	98	71	95	70	98	61	91	62	92	73
27...	78	62	77	58	85	64	93	70	103	70	103	68	96	64	98	67	86	65	102	67	106	75	105	65	103	65	104	74
28...	82	61	88	56	84	61	87	60	95	70	94	68	82	60	86	64	85	65	90	73	88	73	86	67	80	62	85	74
29...	86	62	83	52	87	66	70	60	84	64	87	70	76	62	83	68	80	56	89	71	87	68	82	62	88	64	90	71
30...	85	60	84	49	83	56	76	60	78	63	89	54	73	58	86	58	78	58	91	56	89	59	81	55	86	55	84	64
31...	90	70	94	53	92	61	85	58	90	59	89	68	90	56	85	62	91	55	91	60	94	60	92	64	92	53	92	64
Mns	87.1	62.4	86.2	57.5	86.0	62.1	89.1	59.9	93.8	62.7	91.6	62.7	88.6[a]	55.2[a]	88.3	62.8	88.5	55.6	88.1	62.6	89.7	64.0	89.6	59.5	87.2	59.6	88.1	67.6

Date.	Valentine, Nebr.		Iowa.						Kansas.										Missouri.							
			Clarinda.[‡‡]		Sibley.[‡‡]		Sioux City.		Colby.		Concordia.		Salina.		Topeka.		Wakeeney.		Columbia.		Kansas City.		St. Louis.		Unionville.[‡‡]	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1.....	90	59	96	64	87	61	89	67	89	60	93	64	92	62	91	64	90	63	90	69	89	72	88	74	98	64
2.....	77	59	70	65	83	61	87	65	92	55	91	63	93	61	90	67	94	61	78	69	87	68	82	66	86	67
3.....	83	59	84	62	81	61	87	65	90	59	90	65	92	60	85	65	91	59	84	67	84	66	80	70	80	61
4.....	94	64	82	60	84	53	86	57	96	58	91	61	92	60	87	66	95	60	80	67	82	68	76	65	87	60
5.....	88	58	90	61	89	57	90	66	98	61	94	68	98	64	89	63	101	64	85	66	84	66	83	67	90	62
6.....	86	54	91	61	82	60	84	63	92	55	91	65	88	64	92	68	90	60	86	68	91	71	88	72	91	66
7.....	90	66	80	52	81	53	78	58	101	65	98	62	96	66	95	64	97	66	89	66	91	69	89	72	90	58
8.....	87	61	95	56	85	56	90	61	104	60	91	66	92	64	88	64	91	60	93	66	89	68	92	73	92	66
9.....	73	52	81	63	69	60	76	61	92	62	81	64	93	63	90	70	82	67	92	65	90	66	86	68	93	64
10.....	82	50	83	54	78	50	83	58	84	59	84	56	86	62	82	64	82	55	75	65	78	65	76	67	85	60
11.....	68	51	88	54	73	56	76	61	94	59	86	59	94	62	87	61	92	59	80	68	84	65	82	68	86	57
12.....	76	47	70	60	75	49	77	53	84	58	78	62	78	62	78	65	77	60	81	63	80	66	81	71	82	60
13.....	90	62	86	49	82	50	84	58	96	60	85	56	85	57	85	60	88	58	84	58	84	64	82	68	88	51
14.....	97	57	69	53	82	53	80	63	103	58	98	64	88	60	95	65	101	60	84	68	89	64	89	71	84	56
15.....	95	60	82	63	86	62	89	65	98	60	89	73	95	72	86	72	96	66	83	67	84	73	81	71	81	64
16.....	101	58	95	66	91	61	94	66	98	57	95	68	95	64	91	69	95	61	88	66	90	71	86	70	96	63
17.....	89	66	97	70	77	63	81	65	100	62	98	69	98	70	92	72	100	63	91	67	91	66	86	71	88	66
18.....	89	64	84	57	82	53	82	60	91	65	82	62	94	67	80	65	89	68	78	61	78	64	77	61	83	53
19.....	94	66	82	52	78	56	82	62	94	62	78	59	85	60	79	59	86	56	79	56	77	62	79	60	82	50
20.....	94	67	68	54	83	60	86	66	96	62	87	60	90	62	86	60	93	59	81	57	83	66	80	64	84	56
21.....	76	63	93	66	86	61	90	67	99	65	93	70	94	69	91	67	97	64	85	60	88	68	84	67	88	60
22.....	87	58	76	65	84	62	86	67	93	60	88	72	91	72	86	70	94	65	86	66	81	70	86	70	81	65
23.....	89	62	88	65	87	66	89	70	105	66	100	73	102	63	102	74	107	68	87	73	96	72	87	73	92	67
24.....	92	53	97	65	85	57	90	64	96	65	97	74	96	68	96	78	99	68	91	74	95	80	90	75	97	71
25.....	98	70	72	60	84	55	85	63	103	65	105	73	106	76	104	75	105	68	96	72	101	77	94	66	97	60
26.....	92	64	95	61	86	60	90	64	103	64	100	77	111	77	105	78	106	71	87	69	103	76	80	66	88	62
27.....	92	66	101	71	81	60	88	63	105	69	103	78	108	75	102	81	106	72	95	75	101	81	94	72	96	67
28.....	85	62	97	72	85	59	81	65	96	65	98	79	109	78	105	76	97	69	95	75	101	78	93	74	94	70
29.....	88	65	91	68	86	57	88	66	85	63	90	69	85	69	89	74	84	66	87	70	89	75	85	70	90	66
30.....	86	59	91	57	80	54	81	57	83	64	83	62	91	63	88	72	86	60	86	65	87	73	84	73	86	60
31.....	94	60	91	55	80	54	91	60	90	67	91	70	97	72	89	67	90	67	86	61	88	67	84	67	88	56
Means.....	87.8	60.1	86.0	60.7	82.3	57.4	85.2	62.8	95.2	61.6	91.4	66.5	93.9	65.9	90.5	68.3	93.6	63.6	85.9	66.4	88.2	69.8	84.6	69.1	88.5	61.0

Climatological Data for July, 1910.
DISTRICT No. 7, LOWER MISSISSIPPI VALLEY.

ISAAC M. CLINE, District Editor.

GENERAL SUMMARY.

Temperature conditions were generally mild at the opening of the month, but on the 3d a warm wave overspread the district, which continued until the 9th, giving temperatures of 100°, or higher, in many localities. From the 9th to the 12th moderate temperatures prevailed. On the 13th another period of abnormally high temperature began, and continued until the close of the month, during which time maximum temperatures were above 100° nearly every day in many localities, and during the last half of the third decade the maximums exceeded 110° at some stations in the southwestern portion of the district.

Precipitation was entirely in the form of rain. Periods of precipitation were not well defined, and adjacent localities received their rainfall on widely different dates. In Colorado there were four periods of precipitation; scattered showers occurred on the 1st to 6th, 9th to 14th, and 17th to 24th, and general rains fell from the 27th to 31st. In New Mexico there were two periods of scattered showers, from the 1st to 13th and 20th to 31st, the precipitation being general on the 29th, 30th, and 31st. In Kansas, Oklahoma, and Texas scattered showers occurred generally from the 1st to the 14th, but after the 15th there was very little precipitation. In the eastern portion of the district showers occurred nearly every day, being excessive in some localities. Generally speaking, droughty conditions prevailed in the central portion of the district and the precipitation was below normal in the western portion, while in the eastern portion, excessive precipitation at times interfered materially with outdoor occupations.

TEMPERATURE.

Mean temperatures for the month were above the normal generally over the western and central portions of the district, the excess ranging from 0.5° to 3.8°. Over the eastern portion there was a general deficiency ranging from 0.1° to 2.1°. The maximum temperature reached, or exceeded, 100° at some stations in each State, the highest recorded being 116° at Chickasha, Okla. A temperature of 114° was recorded at Newkirk, Okla. Maximum temperatures of 110° to 112° were recorded at many stations in Kansas and Oklahoma during the last decade of the month, which were usually accompanied by "hot winds," resulting in much damage to vegetation. Except in Mississippi and Louisiana, the lowest temperatures in the various States or parts of States were generally below 60°, and in the mountainous portions of the Colorado and New Mexico areas were generally below 50° The lowest temperature recorded was 33°, at Lake Moraine, Colo., and at Elizabethtown, N. Mex.

Monthly mean temperatures and departures from the normal for the various States and parts of States, are reported as follows: Colorado area, 70.4°, +2.3°; New Mexico area, 73.6°, +1.4°; Texas area, 81.8°, +1.9°; Kansas area, 80.5°, +2.4°; Oklahoma, 83.0°, +2.7°; Missouri area, 77.0°, +0.3°; Tennessee area, 78.8°, −0.4°; Arkansas, 79.4°, −0.7°; Mississippi area, 79.5°, −1.2°; Louisiana, 81.2°, −0.4°.

PRECIPITATION BY DRAINAGE AREAS.

Arkansas river and tributaries.—Precipitation was generally light over this drainage area, except in Arkansas and the extreme eastern portions of Oklahoma and Kansas. Over the headwaters of the Arkansas in Colorado, the precipitation from 28 stations averaged 2.44 inches, being about 0.2 inch below the normal. Over those stretches of the Arkansas Valley that lie in Kansas and Oklahoma, the average from 40 stations was 2.53 inches, the average deficiency being about 1.3 inch. The precipitation was unevenly distributed over the Cimarron Valley and was generally light, the average from 20 stations being 1.51 inch, about half the normal amount. The precipitation from 35 stations in that part of the Canadian Basin that lies in New Mexico averaged 2.04 inches, being about 0.6 inch below the normal. Over those stretches of this basin that lie in Texas and Oklahoma, the average from 29 stations was 2.30 inches, and the average deficiency was 1.2 inch. Unusually light precipitation occurred in the Verdigris Valley, the average from 10 stations being 1.35 inch, about 3.3 inches below the normal. Heavy precipitation occurred over the headwaters of the Neosho, in Missouri, and in the extreme eastern portion of Kansas; elsewhere there was a marked deficiency. The average from 16 stations was 2.64 inches, being about 1.2 inch below the normal. The precipitation was generally heavy over that portion of the Arkansas Basin below the Oklahoma–Arkansas line, the average from 14 stations being 5.67 inches, about 2 inches above the normal.

Red River and tributaries.—Over those stretches of the Red River Valley that lie in New Mexico, Texas, and Oklahoma the precipitation was about half the normal amount, the average from 42 stations being 1.58 inch. Over the stretches of this basin that lie in Arkansas and Louisiana, the precipitation was unevenly distributed; there were more than 8 inches at 2 stations. The average from 16 stations was 3.86 inches, being about 0.3 inch below the normal.

Mississippi south of St. Louis and small tributaries.—Heavy precipitation occurred generally throughout this drainage area, there being an excess, except at a few widely scattered stations. In the immediate Mississippi Valley, the average from 44 stations was 6.45 inches, being about 2.2 inches above the normal. The precipitation ranged generally between 5 and 10 inches over the Valley of the Meramec, and the average excess was about 3.5 inches. Unusually heavy precipitation occurred in the Valley of the White, 4 stations reporting more than 10 inches. The average from 21 stations was 6.80 inches, being about 2.5 inches above the normal. The precipitation averaged nearly 3 inches above the normal over the Yazoo Basin; 8 stations reporting more than 10 inches, and the average from 29 stations was 8.21 inches. Moderately heavy precipitation occurred over the Valley of the Big Black, the average being 5.88 inches, about 1.2 inch above the normal. The precipitation was unevenly distributed over the Ouachita Basin the amounts ranging from 0.62 inch to 9.73 inches. The average from 19 stations was 5.20 inches, being about half an inch in excess of the normal.

Louisiana coastal plain.—Unusually heavy precipitation occurred over the greater portion of this area, there being more than 10 inches at 14 stations and more than 15 inches at 2 stations. The average from 27 stations was 10.16 inches, being about 3 inches above the normal.

Monthly precipitation and departures from the normal for the various States and parts of States are reported as follows: Colorado area, 2.39, −0.34; New Mexico area, 2.04, −0.62; Texas area, 1.67,−1.41; Kansas area, 2.02, −1.89; Oklahoma, 2.15, −1.17; Missouri area, 7.27, +3.03; Tennessee area, 5.50, +1.40; Arkansas, 5.46, +1.50; Mississippi area, 7.53, +1.72; Louisiana, 7.85, +1.83.

RIVERS.

No high water occurred in Oklahoma, except in some of the small streams where freshets resulted from local rains.

Changes in the Red River were slight, and low water prevailed generally during the month.

Low water continued in the upper Arkansas River, except that moderately high stages prevailed in parts of the main

stream and its tributaries in Colorado at the close of the month. At Great Bend, Kans., there was no water in the river during the month and the stage was below 1 foot at Hutchinson, Kans. At the close of July, the stage at Little Rock was remarkably low, being about 7 feet below normal. Navigation was suspended during the greater part of the month.

Low stages prevailed in the upper White River, except from the 11th to the 17th. The lower White River was high during the greater part of the month, but fell rapidly after the 25th.

Slight rises occurred in the Ouachita during the first half of the month, but there was a steady fall during the latter half.

Rains were frequent and at times heavy in the Yazoo Basin, and, as a result, the Yazoo was above flood stage at Swan Lake from July 19 to the close of the month.

Below St. Louis the Mississippi rose during the greater part of the month and the crest of the rise passed Memphis on the 24th, Helena on the 25th, Arkansas City on the 27th, Vicksburg on the 29th, Nathez on the 30th, and reached New Orleans on the 31st.

NOTES.

Bonham, Tex.—Corn and pastures dried up and water for stock was scarce.

Texline, Tex.—Hot winds during the month burned up the grass and crops and there is only about half a crop.

Kansas (T. B. Jennings, Section Director).—Drought has continued with increasing severity, the only relief of consequence being good showers on the 10th, 11th, and 12th. The extreme heat of the 4th week seriously injured crops. Weather conditions have not interfered with farming, and other interests, except that the ground has become too hard to plow and the intense heat has been unfavorable for much exertion.

Beaver, Okla.—Hot winds have damaged crops.

Cache, Okla.—Streams have been very low in this section.

Chandler, Okla.—Damaging hot winds occurred from the 23d to 30th.

Chattanooga, Okla.—Water has been very low in all streams. The weather was hot and dry.

Healdton, Okla.—All creeks were out of banks from the 10th to 12th.

Hobart, Okla.—Hot winds have materially damaged all growing crops, especially corn.

Jefferson, Okla.—This has been the hottest and driest weather for July in 16 years.

Perry, Okla.—This has been the driest weather for July on record.

Supply, Okla.—Hot winds occurred on seven consecutive days from the 22d to the 28th.

Waurika, Okla.—Local streams and the Red River were low at the close of the month.

TABLE 1.—*Climatological data for July, 1910. District No. 7, Lower Mississippi Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days		
Colorado.																				
Blaine	Baca	3,935	18	79.1	+ 2.8	105	26†	56	1†	40	0.88	− 1.94	0.42	0.0	4	17	12	2	s.	M. M. Myers.
Buena Vista	Chaffee	7,955	10	58.2	.....	82	26	40	2†	38	1.80	.....	0.55	0.0	6	7	24	0	w.	C. A. Short.
Calhan	El Paso	6,700	3	69.4	.....	91[a]	4†	45[b]	3	42[b]	5.71	.....	1.92	0.0	9	15	14	2	se.	H. B. Rice.
Canon C ty	Fremont	5,329	22	74.5	+ 1.2	97	15†	50	2	44	0.82	− 1.00	0.26	0.0	10	23	5	3	n.	G. C. Sherwood.
Colorado Springs	El Paso	6,098	30	68.4	+ 0.5	91	14†	47	9†	39	3.88	+ 1.07	2.49	0.0	13	13	13	5	.....	Colorado College.
Cripple Creek	Teller	9,396	9	.....	.....	.....	.....	.....	.....	.....	3.69	.....	0.87	0.0	12	.....	.....	.....	.....	F. G. Willis.
Cuchara Camps	Huerfano	8,200	..	.....	.....	.....	.....	.....	.....	.....	3.44	.....	1.12	0.0	9	19	12	0	sw.	Geo. A. Mayes.
Eads	Kiowa	4,209	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Lauck.
Fairview	Custer	9,500	1	.....	.....	.....	.....	.....	.....	.....	1.31	.....	0.78	0.0	10	9	22	0	ne.	Elizabeth L. Gray.
Florence	Fremont	5,185	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. G. Fish.
Fremont	El Paso	8,850	....	61.7	.....	84	19	40	1	36	4.44	.....	1.87	0.0	17	4	26	1	w.	U. S. Forest Service.
Garfield	Chaffee	9,510	..	.....	.....	.....	.....	.....	.....	.....	1.96	.....	0.57	0.0	13	20	10	1	.....	Lloyd N. Felton.
Glen Eyrie	El Paso	6,500	18	67.8	+ 2.2	95	14†	42	13	49	0.20	− 2.64	0.07	0.0	7	9	21	1	.....	Calixto Bertolotti.
Hamps	Elbert	5,400	17	70.5	+ 3.4	96	22†	45	1	43	2.31	− 0.13	1.41	0.0	7	17	11	3	n.	W. Hamp.
Hermit Lake	Custer	10,000	..	.....	.....	.....	.....	.....	.....	.....	3.81	.....	0.93	0.0	9	20	7	4	sw.	John E. Graham.
Hoehne (near)	Las Animas	5,700	18	77.2	+ 6.9	110	8†	45	3	54	2.25	0.00	1.02	0.0	9	24	6	1	sw.	S. W. DeBusk.
Holly	Prowers	3,380	15	79.3	+ 2.6	104	23	55	10	44	1.36	− 1.67	0.65	0.0	5	23	8	0	se.	Holly Sugar Co.
Lake Moraine	El Paso	10,265	16	55.4	+ 2.0	75	22†	33	2	34	4.16	− 0.09	1.70	0.0	13	6	19	6	sw.	Clyde C. Mc Reynolds.
Lamar	Prowers	3,592	20	81.1	+ 3.5	109	23	50	3	45	1.76	− 0.18	1.15	0.0	5	20	11	0	s.	J. T. Lawless.
Las Animas	Bent	3,899	42	78.0[f]	+ 1.0	105[f]	27	53[f]	8	48[f]	.....	.....	.....	0.0	....	7[f]	3[f]	15[f]	ne.	F. M. Tague.
La Veta Pass	Costilla	9,000	..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Norman R. Lively.
Leadville	Lake	10,248	14	57.4	+ 2.2	83	19	34	6	42	1.94	+ 0.77	0.72	0.0	13	.....	.....	.....	n.	U. S. Weather Bureau.
Limon (near)	Elbert	5,360	3	71.2	.....	97	27†	48	1†	47	2.30	.....	1.60	0.0	5	29	1	1	se.	John Lesher.
Madrid	Las Animas	.....	..	.....	.....	.....	.....	.....	.....	.....	1.40	.....	0.52	0.0	8	.....	.....	.....	.....	Thos. Sawyers.
Marshall Pass	Saguache	10,846	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. D. Lillard.
North Lake	Las Animas	8,700	..	.....	.....	.....	.....	.....	.....	.....	3.52	.....	1.12	0.0	10	19	11	1	nw.	James W. Ingmire.
Pueblo	Pueblo	4,734	22	75.4	+ 1.2	99	19	53	13	40	1.94	− 0.23	0.92	0.0	6	12	15	3	se.	U. S. Weather Bureau.
Rocky Ford (near)	Otero	4,177	21	75.4	+ 1.0	101	27	54	8†	41	3.58	+ 0.86	1.03	0.0	9	25	4	2	e.	P. K. Blinn.
St. Elmo	Chaffee	9,500	..	.....	.....	.....	.....	.....	.....	.....	2.36	.....	0.53	0.0	14	12	15	4	sw.	Daniel Clark.
Salida	do	7,035	12	66.1	+ 0.9	91	18†	38	8	49	1.90	+ 0.49	0.45	0.0	12	21	8	2	w.	M. D. L. Buell.
Sheridan Lake	Kiowa	4,065	9	82.8	.....	103	14†	54	1†	47	0.75	.....	0.41	0.0	2	21	0	0	se.	Howard Gamble.
Stonewall	Las Animas	8,000	4	.....	.....	.....	.....	.....	.....	.....	2.03	.....	0.51	0.0	10	7	23	1	.....	J. W. Shouse.
Trinidad	do	5,994	14	.....	.....	.....	.....	.....	.....	.....	2.55	+ 0.12	0.84	0.0	10	21	10	0	.....	Mrs. Mattie Butler.
Victor (near)	Teller	10,100	6	63.8	.....	84	18	41	10†	37	3.29	.....	1.13	0.0	8	15	16	0	w.	Fred Jones.
Vilas	Baca	3,935	19	.....	.....	.....	.....	.....	.....	.....	1.50	− 0.51	0.79	0.0	3	19	12	0	sw.	Carrie Konkel.
Westcliffe	Custer	7,864	16	64.8[d]	+ 3.4	91[d]	22	37[d]	12	47[d]	.....	.....	.....	0.0	....	6[d]	19[d]	2[d]	nw.[d]	Zack Jordan.
Winfield	Chaffee	9,765	..	.....	.....	.....	.....	.....	.....	.....	1.37	.....	0.33	0.0	13	1	28	2	e.	John G. Payne.
Wortman	Lake	11,250	9	.....	.....	.....	.....	.....	.....	.....	2.22	.....	0.48	0.0	11	2	25	4	nw.	Geo. C. Wortman.
New Mexico.																				
Abbott	Mora	5,771	1	.....	.....	104	23	52	8	.....	2.31	.....	1.50	0.0	8	12	17	2	s.	El Paso & Southwest. R. R.
Albert	Union	4,700	19	79.5	+ 2.4	102	23	58	11	37	1.71	− 1.19	0.59	0.0	4	18	12	1	sw.	Andrew Knell...
Arch (near)	Roosevelt	4,634	1	72.0[b]	.....	100[b]	15†	50[b]	2†	43[b]	1.28	.....	0.50	0.0	5	19	0	12	se.	Wm. A. Elliott.
Aurora	Colfax	8,849	1	.....	.....	.....	.....	.....	.....	.....	3.78	.....	1.07	0.0	17	0	31	0	sw.	Miss Juanita Lucero.
Bell Ranch	San Miguel	4,500	11	80.4	.....	103	4	52	9	43	2.78	− 0.09	1.14	0.0	10	10	21	0	s.	C. M. O'Donel.
Black Lake	Colfax	8,348	1	.....	.....	.....	.....	.....	.....	.....	3.10	.....	1.36	0.0	9	2	29	0	e.	Ralph T. Martinez.
Cabeza	San Miguel	5,406	1	.....	.....	.....	.....	.....	.....	.....	2.70	.....	2.00	0.0	4	7	19	5	sw.	El Paso & Southwest. R. R.
Campana	do	4,493	1	.....	.....	.....	.....	.....	.....	.....	1.86	.....	1.46	0.0	6	7	17	7	w.	Do.
Chacon	Mora	9,000	1	.....	.....	.....	.....	.....	.....	.....	2.72	.....	0.71	0.0	12	0	31	0	.....	Alfredo Lucero.
Cimarron (near)	Colfax	6,385	6	69.2	.....	90	23†	45	11	38	1.41	.....	0.57	0.0	9	11	16	4	se.	Wm. French.
Clayton	Union	5,178	5	73.1	.....	102	15	52	12	42	2.88	.....	0.98	0.0	7	17	13	1	w.	Dr. W. W. Chilton.
Clovis	Curry	4,129	..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Mendenhall.
Cuervo	Guadaloupe	4,849	1	83.1	.....	105	4†	60	2†	41	0.58	.....	0.25	0.0	5	9	22	0	s.	El Paso & Southwestern R.
Dawson	Colfax	6,396	1	.....	.....	.....	.....	.....	.....	.....	0.94	.....	0.80	0.0	2	11	17	3	.....	Do.
Dorsey (near)	do	6,000	7	73.3[b]	.....	97	16	47	11†	38	0.72	.....	0.30	0.0	7	10	18	3	e.	Geo. T. Lambert.
Elizabethtown	do	8,465	4	59.7	.....	87	7	33	1†	50	2.52	.....	0.87	0.0	7	10	19	2	sw.	Miss Mabel Carrington.
Folsom	Union	6,399	10	.....	.....	.....	.....	.....	.....	.....	2.22	− 0.25	1.10	0.0	11	11	19	1	e.	David Rope.
Fort Union	Mora	6,835	30	67.4	− 1.7	90	7†	43	1†	47	4.20	+ 0.27	1.30	0.0	10	18	9	4	sw.	M. C. Needham.
Hayden	Union	4,444	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Geo. L. Cook.
Johnsons Park	Colfax	6,722	1	.....	.....	.....	.....	.....	.....	.....	3.22	.....	2.50	0.0	6	2	19	10	sw.	A. J. Meloche, jr.
Kappus	Quay	4,000	..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Anthony Kappus.
Lake Alice	do	7,160	1	.....	.....	.....	.....	.....	.....	.....	1.78	.....	0.67	0.0	8	.....	.....	.....	sw.	Raton Water Co.
Logan	Quay	3,851	4	80.1	.....	104[a]	4†	52[a]	7	47	2.68	.....	1.44	0.0	5	27	4	0	se.	John B. Reneau.
Los Alamos	San Miguel	6,789	5	.....	.....	.....	.....	.....	.....	.....	2.81	.....	1.38	0.0	7	.....	.....	.....	.....	Wm. Frank, sr.
Lykins (near)	Roosevelt	5,000	..	.....	.....	.....	.....	.....	.....	.....	2.50	.....	0.93	0.0	11	2	29	0	se.	J. G. Buchanan.
Maxwell (near)	Colfax	5,894	3	.....	.....	.....	.....	.....	.....	.....	0.75	.....	0.25	0.0	5	.....	.....	.....	.....	D. N. Jackson.
Melrose	Curry	4,400	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. B. M. Porter.
Miami Ranch	Colfax	6,000	2	71.0	.....	93	23	44	11†	44	0.42	.....	0.13	0.0	4	11	19	1	sw.	Farmers' Devel. Co.
Montoya	Quay	4,335	1	.....	.....	.....	.....	.....	.....	.....	1.69	.....	0.90	0.0	6	0	28	3	s.	El Paso & Southwest. R. R.
Mount Dora (near)	Union	5,600	..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Edward F. Grygla.
Nara Visa	Quay	4,225	4	79.4	.....	102	23	58	1†	39	2.13	.....	0.92	0.0	6	13	13	5	s.	Willard Belknap.
Optimo (near)	Mora	6,400	..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. K. Odell.
Pasamonte	Union	.....	..	.....	.....	.....	.....	.....	.....	.....	2.95	.....	2.30	0.0	3	7	20	4	sw.	J. J. Heringa.
Raton	Colfax	6,660	12	71.6	+ 2.1	93	19	45	11	41	2.21	+ 0.01	0.78	0.0	10	19	11	1	s.	Prof. R. C. Crum.
Rociada	San Miguel	8,200	6	64.8	.....	88	23	35	11	46	0.66	.....	0.25	0.0	6	11	15	5	sw.	Jose A. Baca.
Rosebud	Union	4,500	..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. T. Nix.
Roy	Mora	5,884	1	.....	.....	.....	.....	.....	.....	.....	3.38	.....	1.70	0.0	8	2	25	4	sw.	El Paso & Southwest R. R.
San Jon	Quay	4,200	3	79.6	.....	103	4	58	3†	41	1.40	.....	0.39	0.0	9	14	12	5	sw.	Jesse T. White.
Solano (1)	Mora	5,622	1	74.2	.....	96	5	52	2†	41	1.10	.....	0.45	0.0	7	16	7	8	s.	F. M. Hughes.
Springer	Colfax	5,857	14	74.0	+ 2.6	102	28	45	4	52	1.10	− 1.85	0.80	0.0	5	10	20	1	w.	Atchison, Topeka & S. F. R.
Taylor	do	5,661	..	.....	.....	.....	.....	.....	.....	.....	2.08	.....	1.13	0.0	3	2	11	18	se.	El Paso & Southwest. R. R.
Trementina	San Miguel	5,000	2	.....	.....	.....	.....	.....	.....	.....	1.14	.....	0.58	0.0	4	19	12	0	s.	Miss Alice Blake.
Tucumcari (1)	Quay	4,194	5	82.2	.....	104	4†	59	8	43	1.77	.....	0.95	0.0	7	16	15	0	sw.	John F. Seaman.
Valley	Union	5,000	5	.....	.....	.....	.....	.....	.....	.....	1.00	.....	0.50	0.0	3	16	12	3	s.	Mrs. M. Letitia Payne.
Vermejo Park	Colfax	7,600	5	65.2	.....	90	17	41	15†	44	0.61	.....	0.34	0.0	4	5	10	16	w.	H. W. Adams.
Wagon Mound (near)	Mora	6,300	1	70.4	.....	93	23	45	2	43	3.48	.....	1.53	0.0	12	7	14	10	se.	Guy L. Barnes.
Texas.																				
Amarillo	Potter	3,676	18	79.5	+ 3.4	100	8	58	1	37	3.57	+ 0.40	2.07	0.0	8	15	16	0	s.	U. S. Weather Bureau.
Archer City	Archer	.....	..	.....	.....	.....	.....	.....	.....	.....	1.36	.....	0.51	0.0	5	24	7	0	s.	Chas. H. Thuman.
Arthur City	Lamar	590	18	.....	.....	.....	.....	.....	.....	.....	1.16	.....	0.76	0.0	2	26	0	5	.....	J. B. Wheeler.
Bonham	Fannin	566	7	86.1	.....	109	17	57	20	47	T.	.....	T.	0.0	0	15	15	1	se.	B. S. Lovelace.
Canadian	Hemphill	2,339	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Canadian Academy.
Childress	Childress	1,869	17	.....	.....	.....	.....	.....	.....	.....	1.25	− 1.40	0.85	0.0	2	21	5	5	s.	W. E. Davis.
Chillicothe	Hardeman	1,406	2	.....	.....	.....	.....	.....	.....	.....	1.42	.....	1.42	0.0	1	.....	.....	.....	.....	A. B. Connor.
Clarendon	Donley	2,719	5	82.9	.....	107	29	61	9	39	0.94	.....	0.64	0.0	2	18	11	2	se.	J. B. McClelland.
Clarksville	Red River	442	18	84.1	+ 1.1	104	30	60	21	33	1.04	− 4.58	0.80	0.0	3	18	8	5	.....	J. W. O'Neill.
Claude	Armstrong	3,397	5	.....	.....	.....	.....	.....	.....	.....	2.06	.....	1.35	0.0	2	.....	.....	.....	.....	Ft. Worth & Denver Cy. Ry.
Dalhart §	Dallam	3,998	5	78.0	.....	101	22†	56	1	39	2.80	.....	1.27	0.0	6	19	9	3	s.	F. L. Kennard.

TABLE 1.—*Climatological data for July, 1910. District No. 7*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Texas—Cont'd.																				
Denison	Grayson		2								0.80		0.28	0.0	5	15	9	7	s.	J. B. Gibson.
Finley	Bowie										0.10		0.10	0.0	1				s.	Mrs. M. C. Myers.
Henrietta	Clay	915	18	85.4	+ 2.4	106	30	60	11	33	2.51	+ 1.31	1.14	0.0	5	19	7	5	s.	C. K. Brown.
Hereford	Deaf Smith	3,750	5	79.1		105	17	55	1†	40	3.52		2.25	0.0	4	15	15	1	sw.	A. C. Elliott.
Lewis Ferry	Bowie		1								0.58		0.50	0.0	2	21	6	4		P. G. Ruff.
Memphis	Hall	2,067	5	83.0		101	16†	61	3	33	0.94		0.49	0.0	4	19	7	5		Ft. Worth & Denver City Ry.
Miami	Roberts	2,743	4	82.8		106	22†	56	8	46	2.17	− 0.25	0.82	0.0	4	24	7	0	s.	J. E. Kinney.
Mobeetie	Wheeler		16								2.06		2.06	0.0	1	23	7	1	s.	R. A. Choate.
Nazareth	Castro		4	77.4		100	8	55	1	42	1.66		0.67	0.0	6	22	9	0	sw.	Rev. P. A. Kaelin.
Ochiltree	Ochiltree		2								1.95		0.70	0.0	6					S. J. Allen.
Pampa	Gray	3,226	1																	B. E. Finley.
Paris	Lamar	592	21	83.2	+ 0.9	104	30	61	22	38	0.72		0.40	0.0	6	20	5	6	s.	Robert A. Miller.
Plemons	Hutchinson		3	78.8		103	22	58	1†	41	3.55		1.07	0.9	7	18	11	2	s.	C. S. Solomon.
Quanah	Hardeman	1,563	5	85.0		105	29	62	13	33	2.35		1.30	0.0	2	24	5	2	s.	Wm. H. Crawford.
Ringo Crossing	Hopkins										0.00		0.00	0.0	0	20	0	11	sw.	H. J. Palmer.
Romero	Hartley			79.1		105	22	56	8	41	1.38		0.45	0.0	8	6	23	2	s.	R. S. Chamberlain.
Sherman	Grayson	745	17	84.2	+ 1.8	102	17	67	20	25	2.08	− 2.62	1.66	0.0	5	18	10	3	s.	R. A. Gibbs.
Sulphur Springs	Hopkins	530	18								1.80	− 2.53	1.80	0.0	1					O. M. Pate.
Texline	Dallam	4,694	5					55	2		2.30		0.96	0.0	5	24	7	0	s.	Ft. Worth & Denver City Ry.
Tulia	Swisher	3,501	12	80.0		105	29	59	3	41	2.55	− 1.62	0.99	0.0	5	7	24	0	se.	Lou Mulhall.
Winfield	Titus										0.35		0.18	0.0	2	19	12	0	s.	J. C. Bostick.
Kansas.																				
Alden	Rice	1,684																		Percy Torrey.
Anthony	Harper	1,329	13	83.8		110	29	57	20	40	1.52	− 2.19	1.08	0.0	4	17	14	0	sw.	R. H. Beebe.
Ashland	Clark	1,951	22	81.3	+ 1.8	109	28	59	19	43	2.65	− 1.34	1.05	0.0	7	23	8	0	s.	C. W. Carson.
Burlington	Coffey	1,010	17	80.8	+ 2.7	109	26†	56	13†	38	1.93	− 1.98	1.19	0.0	6	8	23	0	s.	O. E. Sanford.
Chanute	Neosho	940	6	80.2		108	29	55	19	35	1.51		0.84	0.0	4	13	18	0	sc.	Chase W. Brown.
Cimarron	Gray	2,700	4	79.6[k]		106[k]	28	57[k]	7	42[k]	2.27		1.01	0.0	6	4[k]	16[k]	0[k]	sc.	Fred Mallonee.
Coldwater	Comanche	2,090	13	81.3	+ 2.3	106	28	60	19	34	2.41	− 1.03	1.08	0.0	7	23	7	1	s.	J. L. Stanley.
Columbus	Cherokee	898	20																	O. E. Skinner.
Coolidge	Hamilton	3,348	13	77.2	+ 0.6	100	5†	56	17	38	1.58	− 1.44	0.74	0.0	4	21	10	0	sc.	W. R. Padley.
Cottonwood Falls	Chase	1,234	6	80.2		106	23†	54	20	37	2.25		1.13	0.0	9	24	4	3	s.	E. B. Greene.
Council Grove	Morris	1,234	1	77.5[d]		105[e]	26	53[d]	20	35[d]	1.83		0.50	0.0	5	16[d]	4[d]	7[d]	s.	Jas. Sharpe.
Cunningham	Kingman	1,680	26	82.3	+ 4.2	108[a]	28	57[e]	19	40[b]	1.23	− 2.84	0.90	0.0	2	19[a]	11[a]	0[a]	ne.	W. H. Morton.
Dodge City	Ford	2,513	36	78.9	+ 1.2	104	28	60	11	31	1.86	− 1.52	1.37	0.0	8	14	17	0	s.	U. S. Weather Bureau.
El Dorado	Butler	1,291	8	80.4[b]		103[b]	23†	59[b]	13	32[b]	1.83		1.60	0.0	3	20	9	0	s.	W. Y. Miller.
Ellinwood	Barton	1,790	35	80.7	+ 3.2	109	28	58	19	39	2.35	− 1.63	0.90	0.0	0	8	22	1	se.	Martin Musil.
Emporia	Lyon	1,138	29	79.0	+ 0.7	106	25†	55	13†	36	2.08	− 1.65	0.91	0.0	7	20	11	0	s.	W. H. Boyles.
Eureka	Greenwood	1,412	14	80.8		106	25†	55	19†	37	1.76	− 2.94	1.12	0.0	5	25	4	2	s.	T. C. Peffer.
Fall River	...do	925	14	81.6	+ 3.5	110	29	56	20	37	1.42	− 4.43	1.00	0.0	3	22	9	0	s.	J. McDaniel.
Fargo	Seward		1																	Ray Swink.
Fredonia	Wilson	864	7	81.3		111	29	57	19	35	0.90		0.48	0.0	3	24	7	0	ne.	B. W. Holmes.
Garden City	Finney	2,836	21	77.9	+ 0.5	106	23	54	17	41	3.36	+ 0.11	1.50	0.0	6	23	8	0	s.	B. F. Stocks.
Great Bend	Barton	1,850	1								1.76		1.16	0.0	2	24	4	3	sw.	Isaac Pritchard.
Greensburg	Kiowa	2,235	3	79.8		104	28	60	4†	36	2.62		1.35	0.0	5	29	2	0	ne.	C. C. Raymond.
Grenola	Elk	1,116	23	81.4	+ 3.5	108	26†	55	1†	37	1.32	− 2.20	0.55	0.0	4	20	10	1	s.	R. M. Lawyer.
Howard‖	...do	1,112	3								2.26		1.13	0.0	3	24[a]	5[a]	1[a]	sw.	J. W. Eby.
Hugoton	Stevens		6	81.3		109	16	56	1†	47	3.60		1.33	0.0	5	23	7	1	se.	E. M. Anderson.
Hutchinson	Reno	1,535	20	81.2	+ 3.8	108	26†	56	19	41	1.56	− 2.66	0.76	0.0	4	22	8	1	se.	E. S. Webster.
Independence	Montgomery	816	37	81.1	+ 0.4	110	29	56	20	38	1.26	− 3.06	0.46	0.0	6	19	7	5	ne.	F. L. Kenoyer.
Iola	Allen	984	4	80.4	+ 2.3	105	26	58	13	30	0.85	− 3.07	0.36	0.0	5	18	8	5	s.	U. S. Weather Bureau.
Irene	Hamilton	3,440		80.1		108	23	55	1	40	1.19		0.83	0.0	6	17	11	3	se.	N. M. Herbig.
Jetmore	Hodgeman	2,268	9	78.8		107	23†	52	4	46	2.49		1.86	0.0	5	12	19	0	s.	James Aiken.
Kingman	Kingman	1,504	2	82.0		109	28	58	19†	35	1.96		1.45	0.0	6	19	12	0	sw.	B. B. Anawalt.
La Crosse	Rush	2,061	8	79.6		109	23	56	4	40	3.61		2.74	0.0	5	20	10	1	se.	Rodney Torrey.
Lakin	Kearney	2,993	20	78.6	+ 1.8	108	23	55	1	40	2.89	+ 0.48	1.10	0.0	5	21	10	0	se.	C. H. Longstreth.
Larned	Pawnee	2,090	25	81.0		108	26†	58	19	40	2.26	− 1.35	1.63	0.0	4	22	8	1	se.	H. H. Wolcott.
Lebo	Coffey	1,138	24	79.0	+ 1.2	106	28	57	19	32	1.75	− 2.32	1.05	0.0	7	19	12	0	s.	J. J. Bowman.
Le Roy	...do	990	1								1.28		0.54	0.0	7	20	2	9	s.	F. W. Schmitt.
Liberal	Seward	2,843	3	81.0		107	15†	58	1†	40	3.39		1.47	0.0	6	13	7	11	se.	Dr. R. T. Nichols.
McPherson	McPherson	1,495	21	80.7	+ 2.6	110	26†	56	13	40	1.86	− 2.03	0.94	0.0	5	21	7	3	sw.	Ed. F. Haberlein.
Macksville	Stafford	2,032	21	80.0	+ 2.8	106	28	58	19	37	2.32	− 1.35	1.68	0.0	6	8	19	4	s.	Mrs. Nelia Poling.
Madison	Greenwood	1,074	9	80.0		108	28	52	20	41	1.55		0.55	0.0	6	15	15	1	se.	C. A. David.
Marion	Marion	1,310	17	79.4	− 0.2	106	28	55	13†	34	1.99	− 1.07	0.78	0.0	9	5	26	0	s.	Jerry Forney.
Medicine Lodge	Barber	1,259	17	82.0	+ 1.9	110	28	59	19	43	2.54	− 0.45	2.22	0.0	5	21	10	0	s.	S. P. Garrison.
Medora	Reno	1,484	1								1.64		1.17	0.0	2	14	9	8	s.	M. L. Richenbrode.
Mount Hope	Sedgwick	1,410	13								2.22	− 1.19	1.58	0.0	3	25	4	2	s.	H. N. Renfrew.
Neosho Rapids	Lyon	1,092	5								1.18		0.80	0.0	6	26	1	4	ne.	Susan P. Whipple.
Ness City	Ness	2,260	17								3.12	− 0.54	1.44	0.0	7					J. K. Barnd.
Newton	Harvey	1,454	13	82.2[f]	+ 4.0	110	28	57[f]	20	37[f]	1.78	− 1.61	1.50	0.0	3	24	7	0	s.	H. A. Brush.
Norwich	Kingman	1,496	14	83.4	+ 4.9	106	24†	62	3†	34	2.03	− 1.19	1.78	0.0	4	19	12	0	sw.	N. I. Farris.
Oswego	Labette	899	16	80.0	+ 1.3	106	29	57	19	32	2.58	− 2.11	1.22	0.0	11	14	17	0	sw.	Jas. M. Currigan.
Plains	Meade	2,766		80.2		106	28	56	9	38	1.74		0.80	0.0	4	27	0	4		E. J. Henning.
Pratt	Pratt	1,950	15	81.2[f]	+ 1.5	107[f]	28	57[f]	12†	38[f]	1.76	− 1.51	0.98	0.0	4	17	13	1		E. H. Ellsworth.
Rome	Sumner	1,218	24	81.8	+ 2.9	107	29	55	20	44	3.43	+ 0.02	2.23	0.0	2	20	9	2	s.	D. M. Adams.
Sedan	Chautauqua	834	25	82.0	+ 3.2	110	29	55	20	36	0.37	− 3.14	0.20	0.0	4	15	15	1	s.	A. Y. Buckles.
Toronto	Woodson	1,040	13	81.4	+ 3.8	108	25	56	20	36	1.47	− 3.89	0.95	0.0	2	28	3	0	s.	M. A. Webb.
Ulysses	Grand	3,027	19	81.8[d]	+ 3.2	108[e]	23	58[d]	1	38[d]	0.82	− 2.20	0.60	0.0	3	14	17	0	sw.	T. W. Marshall.
Walnut	Crawford	940	8	77.6		107	28	55	5†	36	4.96		1.57	0.0	8	28	3	0	sw.	R. C. Harlan.
Wichita	Sedgwick	1,377	23	81.4	+ 2.4	105	26	61	19	33	1.24	− 2.38	0.98	0.0	5	15	16	0	se.	U. S. Weather Bureau
Winfield	Cowley	1,124	16	81.2	+ 2.6	104	23†	61	19	39	2.58	− 1.49	1.75	0.0	3	27	4	0	s.	M. B. Light.
Yates Center	Woodson	1,068	31	80.8	+ 3.5	105[b]	25†	55[b]	19	34[b]	1.23	− 3.13	0.79	0.0	5	11	18	0	e.	J. W. Tipton.
Oklahoma.																				
Ada	Pontotoc	1,001	3																	Dr. J. P. McKinley.
Alva	Woods	1,350	6																	L. W. Sandefur.
Apache	Caddo	1,255	1	84.0		109	29	62	1	39	1.15		0.66	0.0	5	23	8	0	s.	G. D. Teeter.
Arapaho	Custer	1,575	17	83.4	+ 3.8	108	29	63	12	35	1.46	− 2.57	0.58	0.0	4	21	8	2	s.	Geo. E. Marsh.
Ardmore	Carter	872	9	83.6		105	29	60	20	37	4.62		1.75	0.0	5	21	3	7	s.	H. T. Nisbett.
Bartlesville	Washington	687	4	82.4		110	29	59	19†	37	0.58		0.18	0.0	4	19	12	0	se.	Dr. A. P. Owens.
Beaver	Beaver	2,500	14	82.4	+ 2.4	107	28	56	31	37	3.19	+ 0.15	1.62	0.0	6	24	7	0	s.	W. C. Fraser.
Blackburn	Pawnee	800	6	82.8		109	29	56	20	25	0.10		0.10	0.0	1	29	2	0	s.	J. Landis.
Cache	Comanche	1,350	5	82.8		105	29	57	20	39	0.80		0.30	0.0	3	23	8	0	s.	Frank Rush.
Calvin	Hughes	713	6								2.46		1.16	0.0	8	21	1	9	s.	Thomas Purcell.
Chandler	Lincoln	865	6	83.0		106	29	62	20	32	0.68		0.42	0.0	3	19	1	11	s.	Chas. L. Tuttle.
Chattanooga	Comanche	1,150	5	84.2[d]		107[b]	29	62	20	36	1.84		1.16	0.0	4	21	7	3	se.	Squire Humble.
Chickasha	Grady	1,091	10	85.9		116	30	64	1†	41	2.62		1.50	0.0	6	21	5	5	s.	J. C. Good.
Cloud Chief	Washita	1,400	10	86.6		112	16	64	12	38	0.20		0.20	0.0	1	21	9	1	s.	J. P. Stutzman.

TABLE 1.—*Climatological data for July, 1910. District No. 7*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Oklahoma—Cont'd.																				
Dacoma	Woods	1,337	13	79.8	+ 0.8	106	29	51	19	42	0.67	− 3.24	0.35	0.0	4	17	14	0	se.	R. H. Bruce.
Durant	Bryan	643	10	83.8	.....	108	30	61	20	38	1.86	.....	0.66	0.0	5	21	7	3	s.	Nelson Houk.
Eldorado	Jackson	1,456	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. W. Lanham.
El Reno	Canadian	1,400	19	84.0	+ 4.2	110	29	57	1	42	0.49	− 3.46	0.21	0.0	3	25	3	3	s.	Pearl Maddox.
Enid	Garfield	1,269	11	86.1	.....	112	29	63	12	38	0.14	.....	0.07	0.0	3	24	6	1	s.	Uri. B. Worcester.
Erick	Beckham	2,058	7	83.8	.....	108[b]	29	62[b]	18	41[b]	0.68[b]	.....	0.62[b]	0.0[b]	2[b]	18[b]	11[b]	0[b]	s.[b]	A. W. Hanes.
Fairland	Ottawa	839	11	80.0	+ 1.5	104	29	56	19	30	3.12	− 0.62	1.26	0.0	8	15	8	8	s.	C. W. Prior.
Fort Gibson	Muskogee	556	6	.....	.....	.....	.....	.....	.....	.....	7.27	.....	3.50	0.0	6	19	4	8	e.	John T. Welsh.
Frederick	Tillman	1,293	7	84.7	.....	108	30	65	1†	35	1.27	.....	1.01	0.0	4	16	11	4	se.	B. B. Bradley.
Gage	Ellis	2,136	8	80.4	.....	108	29	60	12	37	1.61	.....	0.91	0.0	5	27	4	0	s.	C. H. Holmes.
Goodwell	Texas	3,300	..	82.9	.....	105	29	58	1†	44	3.69	.....	1.13	0.0	8	16	14	1	ne.	S. W. Black.
Guthrie	Logan	1,000	8	85.8	.....	111	29	60	20	38	1.50	.....	1.50	0.0	1	21	8	2	s.	G. W. Derrick.
Guymon	Texas	3,133	1	.....	.....	.....	.....	.....	.....	.....	4.28	.....	1.22	0.0	8	.....	.....	.....	s.	A. L. Mordt.
Harrington	Roger Mills	2,200	7	87.0	.....	106	28	59	12	39	1.87	.....	1.27	0.0	2	.....	.....	.....	.....	T. Compton.
Hartshorne	Pittsburg	700	12	82.6	+ 1.5	105	29†	59	20	37	3.15	− 0.84	1.10	0.0	6	19	11	1	s.	Edward Glendenning.
Healdton	Carter	900	17	81.6	+ 0.6	104	29	59	20†	41	7.23	+ 3.81	3.01	0.0	5	21	8	2	s.	C. H. Heald.
Helena	Alfalfa	1,396	3	84.2	.....	109	29	62	20	35	0.30	.....	0.30	0.0	1	22	8	1	s.	Frank Horsfall.
Hennessey	Kingfisher	1,166	16	86.3	+ 5.2	112	29	59	20	39	T.	− 3.69	T.	0.0	0	10	20	1	s.	W. W. Parks.
Hobart	Kiowa	1,396	7	87.2	.....	110	29	64	11	37	0.21	.....	0.15	0.0	3	13	18	0	s.	Roy Benedict.
Holdenville	Hughes	900	10	81.5	+ 1.5	104	29	59	20	31	4.20	+ 0.90	2.07	0.0	4	27	2	2	s.	Miss M. Rutherford.
Hooker	Texas	2,999	5	79.6	.....	106	28	58	9†	40	3.22	.....	0.67	0.0	8	14	2	15	s.	H. M. Kelley.
Hurley	Cimarron	3,600	2	78.9	.....	105	22	53	9	42	1.24	.....	0.66	0.0	3	12	16	3	sw.	C. W. Meyers.
Idabel	McCurtain	474	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. L. Henderson.
Jefferson	Grant	1,062	17	84.0	+ 3.8	111	29	60	3	43	0.39	− 3.03	0.39	0.0	1	21	10	0	sw.	T. E. Beck.
Kenton	Cimarron	4,000	11	77.6	+ 1.7	103	23	54	10	36	3.63	+ 1.56	1.23	0.0	10	20	9	2	sw.	L. A. Wikoff.
Kingfisher	Kingfisher	1,046	13	85.2	+ 4.6	108	29	61	20	37	1.90	− 1.72	1.21	0.0	4	20	10	1	s.	J. C. Cross.
McAlester	Pittsburg	698	18	84.4	.....	106	29	60	20	32	1.53	− 2.72	0.36	0.0	6	22	4	5	s.	Wm. Noble.
McComb	Pottawatomie	1,200	16	82.5	+ 2.6	103	29	61	20†	37	1.00	− 2.12	1.00	0.0	1	19	12	0	s.	Jas. E. McNair.
Mangum	Greer	1,585	18	85.4	+ 3.7	110	16†	65	1	38	0.54	− 2.13	0.30	0.0	5	16	11	4	se.	M. J. Northcuff.
Marlow	Stephens	1,292	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. B. Anthony.
Meeker	Lincoln	1,030	17	82.6	+ 1.6	106	29	55	19	33	2.80	+ 0.01	1.30	0.0	4	21	6	4	s.	Dr. J. B. Baugh.
Muskogee	Muskogee	614	12	80.7	+ 2.0	101	29	60	10	28	8.16	+ 4.44	4.65	0.0	4	18	10	3	se.	Prof. E. N. Collette.
Mutual	Woodward	....	4	82.5	.....	110	29	60	13	47	0.41	.....	0.24	0.0	2	26	3	2	s.	Thos. Martin.
Neola	Caddo	1,500	5	83.5	.....	107	16†	62	20	34	1.99	.....	0.60	0.0	6	18	13	0	s.	R. N. Schooling.
Newkirk	Kay	1,149	14	85.6	+ 5.2	114	29	61	19	40	2.02	− 1.25	1.00	0.0	3	24	6	1	s.	P. H. Albright & Co.
Norman	Cleveland	1,171	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Walter H. Meier.
Oakwood	Dewey	1,854	..	81.8	.....	106	29	61	20	36	0.66	.....	0.47	0.0	3	24	6	1	s.	Dr. F. P. Osborn.
Okeene	Blaine	1,194	7	84.8[a]	.....	109[a]	29	56[a]	2	40[a]	0.78	.....	0.45	0.0	6	28[a]	2[a]	0[a]	s.	Dr. L. H. Murdoch.
Oklahoma	Oklahoma	1,247	21	82.6	+ 2.8	104	29	64	12	29	0.94	− 2.71	0.43	0.0	8	14	13	4	s.	U. S. Weather Bureau.
Okmulgee	Okmulgee	752	8	.....	.....	.....	.....	59[i]	3	....	4.17	.....	1.95	0.0	4	.....	.....	.....	s.	J. L. Maynard.
Pauls Valley	Garvin	880	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. Foss.
Pawhuska	Osage	918	12	83.8	+ 3.9	109	29	63	13	33	1.75	− 2.90	0.82	0.0	5	18	13	0	s.	R. C. Block.
Perry	Noble	1,060	13	84.4	+ 4.6	110	29	59	20	36	0.93	− 2.64	0.93	0.0	1	24	6	1	s.	J. A. Douglas.
Ravia	Johnson	796	9	83.4	.....	108	29	59	20	36	2.85	.....	1.40	0.0	7	22	5	4	s.	R. G. Guptill.
Sac & Fox Agency	Lincoln	900	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	D. B. Taylor.
Shawnee	Pottawatomie	1,041	10	81.6	+ 1.2	105	29	61	21	35	2.63	− 0.13	1.50	0.0	4	20	2	9	s.	Neal R. Clark.
Snyder	Kiowa	1,356	4	84.1[d]	.....	105[d]	29	66[d]	1†	38	1.05[a]	.....	0.43	0.0	4[a]	23[d]	4[d]	0[d]	s.	Dr. W. C. Woodard.
Stillwater	Payne	880	18	83.3	+ 3.8	107	29	59	20	34	0.34	− 3.12	0.25	0.0	3	22	5	4	s.	J. M. Speidel.
Supply	Woodward	2,100	3	82.5	.....	104	25†	60	4	37	3.78	.....	1.76	0.0	8	24	7	0	s.	A. H. Trumbo.
Tulsa	Tulsa	700	22	82.4[b]	.....	106	29	58[c]	3	37	2.97	− 1.51	1.10	0.0	6	4	26	1	s.	William Hall.
Vinita	Craig	698	7	79.7	.....	103	29	56	19	29	3.05	.....	1.05	0.0	6	15	6	10	s.	C. E. Lahman.
Wagoner	Wagoner	588	14	80.6	− 0.1	102	29	58	20	29	3.27	− 0.86	1.22	0.0	7	17	5	9	s.	S. L. Hatfield.
Waukomis	Garfield	1,258	14	85.5	+ 4.7	111	29	60	5†	42	0.13	− 4.00	0.11	0.0	2	27	3	1	sw.	R. C. Shades.
Waurika	Jefferson	988	..	84.2	.....	105	29†	64	20	32	2.82	.....	1.02	0.0	4	26	4	1	s.	B. A. Swindler.
Weatherford	Custer	1,639	9	84.1	.....	108	29	63	12	33	1.35	.....	0.78	0.0	5	22	8	1	s.	M. D. Reed.
Webbers Falls	Muskogee	479	12	80.9	+ 1.1	104	29	57	4†	34	6.65	+ 2.66	3.30	0.0	6	15	16	0	e.	B. D. Boulineau.
Whiteagle	Kay	945	5	85.4	.....	110	29	60	20	24	2.42	.....	2.35	0.0	2	30	0	1	s.	J. M. Dankwardt.
Woodward	Woodward	1,886	1	82.6	.....	106	29	61	4	36	1.62	.....	1.04	0.0	4	26	4	1	s.	R. A. Boyle.
Missouri.																				
Belle	Maries	....	18	75.6[d]	− 1.3	94[d]	8	55[d]	20	30[d]	5.95[d]	+ 1.64	3.18[d]	0.0[d]	5[d]	5[d]	21[d]	1[d]	sw.[d]	A. J. Wofford.
Birchtree	Shannon	1,200	17	75.4[i]	− 0.8	93[a]	25†	55[b]	20†	29[b]	10.54	+ 5.91	2.97	0.0	11	18[a]	7[a]	5[a]	s.[a]	V. H. Kirkendall.
Cape Girardeau	Cape Girardeau	305	5	.....	.....	.....	.....	.....	.....	.....	9.34	.....	2.30	0.0	12	11	9	11	s.	D. L. Albert.
Caruthersville	Pemiscot	....	20	80.0	+ 0.7	100	29	60	20†	31	4.30	+ 0.60	0.89	0.0	14	22	4	5	c.	H. E. Averill.
Dean	McDonald	....	11	77.0	− 0.5	98	29	52	19†	35	7.00	+ 2.86	2.80	0.0	6	23	4	4	s.	H. E. Dean.
Doniphan	Ripley	440	6	77.9	.....	97	25	55	20	29	6.34	.....	1.85	0.0	10	16	8	7	sw.	W. W. Martin.
Farmington	St. Francois	889	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Miss Carrie Sneed.
Gano	Dent	....	7	76.7	.....	97	25	53	20	32	4.91	.....	1.96	0.0	12	16	9	6	ne.	A. C. Leech.
Goodland	Iron	900	5	75.2	.....	96	25	46	20	35	7.31	.....	1.75	0.0	12	18	3	10	s.	F. M. Adams.
Greensville	Wayne	....	16	78.3	+ 0.5	97	25	55	20	31	11.45	+ 7.84	2.35	0.0	16	10	21	0	s.	A. G. Templeton.
Hollister	Taney	1,000	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Chapman.
Ironton	Iron	925	32	76.4	+ 0.8	97	25	49	20	35	7 99	+ 3.42	3.22	0.0	11	2	17	12	s.	W. H. Delano.
Jackson	Cape Girardeau	458	19	77.6	+ 1.2	96	25	56	20	29	10.33	+ 6.91	4.36	0.0	13	11	5	15	s.	L. M. Bean.
Joplin	Jasper	979	32	79.2	.....	102	29	57	19	30	3.07	− 1.72	1.55	0.0	6	27	2	2	sw.	Miss E. Russum.
Koshkonong	Oregon	911	10	77.4	.....	94	25†	57	20	25	12.29	+ 8.16	4.15	0.0	13	13	13	5	sw.	J. W. Hitt.
Lamar	Barton	964	30	79.0	+ 0.9	102	29	56	19	30	4.85	+ 0.40	1.14	0.0	11	17	5	9	s.	E. H. Adams.
Marble Hill	Bollinger	420	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. F. Hemdrix.
Mountaingrove	Wright	1,490	11	74.2	.....	94	29	53	20	25	8.49	+ 4.04	1.75	0.0	15	11	11	9	s.	Mo. Fruit Exp. Station.
Mount Vernon	Lawrence	1,480	34	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. L. White.
Neosho	Newton	1,023	27	77.5	+ 0.1	98	29	51	20	33	3.13	− 1.22	1.10	0.0	10	24	5	2	s.	W. O. Buck.
New Madrid	New Madrid	285	16	.....	.....	.....	.....	.....	.....	.....	5.60	+ 1.08	1.05	0.0	15	19	0	12	se.	Miss Josie Smith.
Oakfield	Franklin	793	18	76.3	− 1.2	97	25	57	19	30	8.91	+ 4.13	1.58	0.0	11	6	16	9	sw.	E. E. Steines.
Olden	Howell	1,246	20	76.1	− 0.1	93	25†	55	19	30	12.69	+ 8.64	3.35	0.0	14	16	14	1	sw.	J. D. Evans.
Perryville	Perry	582	1	75.2	.....	95	25	56	19†	32	8.46	.....	2.80	0.0	10	19	0	12	s.	Superintendent of Schools.
Rolla	Phelps	1,092	29	76.8	.....	96	25	56	19	25	4.81	+ 0.65	2.78	0.0	11	18	6	7	sw.	Prof. P. J. Wilkins.
Sikeston	Scott	328	15	78.9	+ 0.8	96	25	57	20	27	7.58	+ 3.15	1.30	0.0	12	19	7	5	sw.	A. A. Harrison.
Springfield	Greene	1,350	22	75.7	− 0.7	93	29	58	19	25	4.25	− 0.54	1.41	0.0	12	19	11	1	s.	U. S. Weather Bureau.
Steelville	Crawford	746	14	77.0	.....	97[a]	8†	51[a]	19†	33[a]	4.80[a]	+ 1.65	2.50[a]	0.0[a]	9[a]	14[a]	8[a]	8[a]	ne.[a]	Edwin Pumphrey.
Kentucky.																				
Blandville	Ballard	445	30	74.6	− 3.6	94	25	60	19†	23	8.20	+ 4.34	1.99	0.0	16	9	12	10	sw.	E. W. Horr.
Lynnville	Graves	.....	9	78.0	.....	93	25†	57	20	30	9.34	.....	1.99	0.0	15	11	8	12	sw.	Wm. Scherffins.
Tennessee.																				
Arlington	Shelby	....	28	79.0	− 0.4	97	25	61	19†	29	6.15	+ 2.29	1.73	0.0	10	5	12	14	s.	A. T. B. Etheridge.
Bolivar	Hardeman	450	23	78.4	− 0.4	95	29†	60	19	27	6.54	+ 2.8[a]	1.56	0.0	15	13	0	18	s.	Miss M. A. Smith.
Brownsville	Haywood	361	25	78.4	− 0.8	94	28†	60	19†	28	4.93	+ 1.38	1.90	0.0	10	4	18	9	s.	Miss Hattie M. Moses.
Covington	Tipton	311	23	79.2	0.0	95	29	61	20	24	4.08	+ 0.75	1.15	0.0	11	17	1	13	s.	J. S. Ruffin.
Dyersburg	Dyer	310	27	79.6	+ 0.4	95	28†	61	19	27	5.02	+ 1.54	1.20	0.0	13	11	8	12	se.	Miss M. A. Sinclair.
Jackson	Madison	450	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. S. A. Robert.

TABLE 1.—*Climatological data for July, 1910. District No. 7*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Tennessee—Cont'd.																				
Kenton	Obion	325	8	78.6	.....	94	25†	58	19†	28a	9.56	.....	2.09	0.0	15	11	12	8	sw.	G. S. Martin.
Memphis	Shelby	409	39	79.0	− 1.7	92	29	62	20	22	2.59	− 0.92	0.63	0.0	11	6	11	14	sw.	U. S. Weather Bureau.
Milan	Gibson	440	27	77.6	− 1.7	91	25†	60	20	28	5.76	+ 1.89	2.00	0.0	18	2	6	23	s.	O. F. Cantwell.
Trenton	do	345	27	78.1	− 0.2	95	25†	57	19†	30	4.56	+ 1.23	2.60	0.0	10	16	14	1	sw.	Prof. F. L. Dennison.
Union City	Obion	360	12	80.0	+ 0.8	98	25†	53	20	35	5.85	+ 1.60	1.44	0.0	16	10	17	4	s.	J. B. Kinsey.
Arkansas.																				
Alicia	Lawrence	.....	6	78.8	.....	94	25†	60	22	27	4.70	.....	1.05	0.0	7	22	9	0	nw.	McCullough & Guelck.
Amity	Clark	250	18	80.1e	0.0	100	29	58e	21	36e	4.48	+ 0.56	1.64	0.0	13	14	11	6	sw.	Prof. S. M. Samson.
Arkadelphia (near)	do	230	3	82.2	.....	101	29	64	1†	30	1.53	.....	0.40	0.0	7	19	4	8	sw.	J. A. Ross.
Arkansas City	Desha	145	27	.....	.....	.....	.....	.....	.....	.....	7.08	+ 3.20	1.94	0.0	14	.....	.....	.....	.....	W. C. Blundell.
Batesville	Independence	271	11	.....	.....	.....	.....	.....	.....	.....	7.39	.....	1.92	0.0	9	.....	.....	.....	.....	Miss Lelia I. Teter.
Bee Branch	Van Buren	.....	18	79.5	− 0.1	99	29	57	19†	28	7.15	+ 3.44	1.65	0.0	10	13	10	8	.....	J. E. Scanlon.
Benton	Saline	283	3	79.9	.....	98	23	63	19†	26	9.73	.....	3.75	0.0	11	14	14	3	s.	J. E. Evans.
Bentonville	Benton	1,303	5	76.5	.....	96	29	56	19	26	7.54	.....	3.88	0.0	9	19	7	5	s.	U. S. Weather Bureau.
Bergman	Boone	1,324	14	74.8	− 1.1	101	29	41	18	40	4.36	− 0.40	1.32	0.0	8	20	6	5	sw.	John T. Maxey.
Black Rock	Lawrence	.....	6	.....	.....	.....	.....	.....	.....	.....	3.94	.....	0.95	0.0	13	.....	.....	.....	.....	S. J. Howe.
Brinkley	Monroe	226	24	79.2	− 0.6	98	29	59	19	29	12.44	+ 8.47	4.23	0.0	11	.....	.....	.....	.....	H. L. D. Whitson.
Calico Rock	Izard	361	6	.....	.....	.....	.....	.....	.....	.....	5.54	.....	1.20	0.0	10	.....	.....	.....	.....	W. H. Stoner.
Camden	Ouachita	158	25	80.8	− 0.3	99	23	63	20	26	4.34	+ 0.04	2.00	0.0	10	7	15	9	sw.	R. H. Quarterman.
Centerpoint	Howard	.....	10	81.8	.....	102	29	60	20	32	4.71	.....	1.70	0.0	6	17	8	6	se.	J. M. Huddleston.
Clarendon	Monroe	171	6	.....	.....	.....	.....	.....	.....	.....	9.46	.....	3.90	0.0	13	.....	.....	.....	.....	Mrs. B. E. Bishop.
Conway	Faulkner	309	27	79.6	− 0.8	99	29	60	20	29	8.70	+ 5.13	4.15	0.0	13	11	18	2	se.	G. H. Burr.
Corning	Clay	293	18	78.8	− 0.1	95	25	57	20	27	7.68	+ 4.25	1.77	0.0	17	10	14	7	s.	Jacob Brobst.
Dardanelle	Yell	330	24	79.6	.....	98	29	60	19	30	5.94	+ 1.72	1.34	0.0	13	.....	.....	.....	.....	A. Bernard.
Dennard	Van Buren	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Fred B. Brown.
Dodd City	Marion	1,175	29	78.0e	− 2.0	97e	29	52e	19†	30e	5.43	+ 0.45	2.49	0.0	6	.....	.....	.....	.....	Neal Dodd.
Dutton	Madison	.....	9	77.4e	.....	99e	29	57e	19†	31e	3.62	.....	0.80	0.0	8	.....	.....	.....	.....	Edward Mize.
Earl	Crittenden	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. J. Moss.
Eldorado	Union	265	6	80.4	.....	96	30	63	20	24	4.71	.....	1.90	0.0	9	.....	.....	.....	.....	Jeff J. Babb.
England	Lonoke	.....	4	79.5	.....	96	31	61	20	26	6.68	.....	1.35	0.0	11	.....	.....	.....	.....	J. C. Chenault.
Eureka Springs	Carroll	.....	9	77.7	.....	97	29	55	19†	30	8.22	.....	3.60	0.0	7	14	17	0	sw.	S. H. Britts.
Fayetteville	Washington	1,451	21	77.6	+ 0.2	98	29	57	19†	28	5.98	+ 1.17	1.63	0.0	6	15	11	5	sw.	University of Arkansas.
Fort Smith	Sebastian	481	28	81.5	+ 0.5	103	29	63	20	27	2.71	− 1.13	0.68	0.0	10	14	12	5	e.	U. S. Weather Bureau.
Fulton	Hempsted	264	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	B. C. Logan.
Hardy	Sharp	643	12	77.5	.....	94	25	56	19	25	10.29	+ 6.19	2.30	0.0	14	3	21	7	sw.	C. A. Caywood.
Helena	Phillips	182	25	80.6	− 0.8	99	29	62	19	27	4.36	+ 0.34	0.78	0.0	12	.....	.....	.....	.....	B. F. Modisett.
Hot Springs	Garland	600	4	78.7	.....	97e	29†	57	20	28e	6.31	.....	2.22	0.0	13	29	2	0	ne.	Hot Springs Water Co.
Huttig	Union	85	3	81.6	.....	97a	30	64a	20	24a	6.31	.....	1.37	0.0	14	.....	.....	.....	.....	C. A. Berry.
Jonesboro	Craighead	345	15	79.0	− 1.8	99a	25	56a	20	32a	3.33	+ 0.10	1.20	0.0	9	.....	.....	.....	s.	Benedictine Sisters.
Junction	Union	.....	17	80.5	− 0.1	98	30	63	21	27	6.73	+ 2.87	2.20	0.0	4	18	5	8	sw.	J. A. Lowderback.
Lake Farm	Jefferson	195	3	79.2	.....	96	17†	55	18	39	2.65	.....	0.80	0.0	6	14	17	0	sw.	R. H. Gillespie.
Lewisville	Lafayette	262	7	81.9	.....	100	29†	63	20	27	3.03	.....	0.87	0.0	9	16	12	3	.....	F. W. Youmans.
Little Rock	Pulaski	357	31	79.1	− 1.5	94	29	65	19	22	4.73	+ 0.74	1.20	0.0	13	7	17	7	sw.	U. S. Weather Bureau.
Lutherville	Johnson	775	13	77.8	− 1.0	99	29	56	20	32	3.27	.....	1.05	0.0	12	15	12	4	ne.	Herman Hentschel.
Malvern	Hot Spring	277	23	80.0	− 1.2	98	29	60	20	28	6.02	+ 3.04	1.40	0.0	12	.....	.....	.....	.....	Miss L. C. Smith.
Mammoth Spring	Fulton	.....	6	76.7	.....	92a	24†	52a	20	30a	10.16	.....	2.75	0.0	11	11	19	1	.....	F. Wallick.
Marked Tree	Poinsett	.....	6	.....	.....	.....	.....	.....	.....	.....	3.62	.....	1.40	0.0	8	.....	.....	.....	.....	L. Smith.
Mena	Polk	1,100	24	.....	.....	101b	29	62b	20	27b	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. R. St. John.
Mossville	Newton	.....	17	74.0	− 2.3	92	29	51	19	25	3.65	− 2.03	1.16	0.0	8	16	7	8	s.	Theo. Ober.
Mount Nebo	Yell	1,750	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. G. Church.
Newport	Jackson	231	26	79.8	− 0.8	97	25	61	20†	28	2.37	− 2.23	0.84	0.0	5	.....	.....	.....	.....	L. R. Cobb.
Ozark	Franklin	377	19	81.6	− 0.7	105	29	60	18	30	3.62	− 0.17	1.92	0.0	7	20	7	4	e.	R. M. Adams.
Pine Bluff	Jefferson	215	22	80.3	− 2.1	96	25	63	19	26	7.30	+ 3.76	1.65	0.0	9	.....	.....	.....	.....	J. M. Hudson.
Pocahontas	Randolph	.....	18	79.7	+ 0.3	98	7	60	19†	33	8.84	+ 4.33	2.60	0.0	12	14	12	5	.....	Benedictine Sisters.
Pond	Benton	1,250	13	77.0	+ 0.4	96	29	55	19†	27	5.80	+ 0.02	1.96	0.0	7	5	23	3	sw.	A. F. Stevens.
Portland	Ashley	122	1	80.5	.....	94	29†	66	20	24	7.25	.....	1.60	0.0	13	.....	.....	.....	.....	L. W. Gregory.
Prescott	Nevada	327	22	81.2	− 0.7	100	29†	64	20†	29	0.62	− 2.26	0.40	0.0	5	.....	.....	.....	.....	A. M. Ellsworth.
Rogers	Benton	1,385	19	76.4	− 0.5	96	29	56	20	28	6.32	+ 1.73	4.75	0.0	9	14	10	7	s.	Carl A. Stark.
Springbank	Miller	182	3	.....	.....	.....	.....	.....	.....	.....	0.85	.....	0.32	0.0	5	.....	.....	.....	.....	G. Field.
Stuttgart	Arkansas	495	23	79.9	− 0.8	97	29	60	19	25	6.93	+ 2.19	1.89	0.0	14	17	13	1	s.	H. A. Buerkle.
Subiaco	Logan	1,050	13	81.0	+ 0.2	103	29	59	20	30	4.09	+ 0.26	1.92	0.0	9	19	9	3	e.	New Subiaco Abbey.
Texarkana	Miller	332	26	81.6	− 0.5	98	29	64	20	25	1.71	− 1.38	0.82	0.0	6	.....	.....	.....	.....	D. E. Moore.
Warren	Bradley	304	15	79.7	− 2.2	96	30	62	20	27	4.55	+ 0.74	1.64	0.0	11	.....	.....	.....	.....	W. J. Savage.
Whitecliffs	Little River	206	6	.....	.....	.....	.....	.....	.....	.....	1.12	.....	0.55	0.0	6	.....	.....	.....	.....	John E. Payton.
Wiggs	Garland	.....	17	78.9	− 1.4	99	29	56	20	30	5.43	− 0.43	1.40	0.0	16	8	22	1	sw.	S. D. Jester.
Wynne	Cross	.....	2	79.8	.....	98	29	58	19	25	4.78	.....	1.35	0.0	13	.....	.....	.....	.....	R. R. Poole.
Mississippi.																				
Anguilla	Sharkey	107	2	80.6	.....	97	30	64	20	24	9.23	.....	4.45	0.0	12	9	12	10	s.	E. W. Cook.
Austin	Tunica	200	14	78.8	− 1.5	94	17†	61	19	26	6.93	+ 2.77	1.52	0.0	14	16	4	11	s.	H. J. Irvine.
Batesville	Panola	230	22	78.8	− 1.4	94	29	61	19	24	6.12	+ 1.97	1.07	0.0	16	13	6	12	s.	J. M. Cox.
Big Creek	Calhoun	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. P. Havens.
Byhalia	Marshall	390	1	.....	.....	.....	.....	.....	.....	.....	5.44	.....	2.02	0.0	10	6	22	3	sw.	Tallahatchie Dng. Com.
Canton	Madison	228	20	80.0	− 0.6	97	30	65	20†	25	5.28	+ 1.04	1.28	0.0	14	3	23	5	s.	Dr. G. W. Smith-Vanis.
Charleston	Tallahatchie	.....	.....	.....	.....	.....	.....	.....	.....	.....	12.61	.....	4.23	0.0	11	8	7	16	sw.	Tallahatchie Dng. Com.
Clarksdale	Coahoma	177	3	80.0	.....	95	17†	63	19†	25	12.17	.....	1.84	0.0	17	9	4	18	s.	A. C. Tuttle.
Coffeeville	Yalobusha	241	1	.....	.....	.....	.....	.....	.....	.....	11.90	.....	3.48	0.0	15	2	23	6	s.	Tallahatchie Dng. Com.
Corinth	Alcorn	470	22	78.8	0.0	94	30	61	19	26	4.88	− 0.08	1.34	0.0	16	12	7	12	se.	M. A. Candler.
Crenshaw	Panola	187	1	.....	.....	.....	.....	.....	.....	.....	10.77	.....	1.79	0.0	16	8	22	1	sw.	Tallahatchie Dng. Com.
Denmark	La Fayette	.....	1	.....	.....	.....	.....	.....	.....	.....	10.08	.....	3.10	0.0	11	.....	.....	.....	.....	Do.
Duck Hill	Montgomery	.....	11	80.0	0.0	100	30	62	19†	29	8.33	+ 3.51	2.29	0.0	11	10	19	2	s.	W. H. Eskridge.
Edwards	Hinds	222	23	80.1	− 2.0	96	30	64	20	25	3.88	− 1.34	1.10	0.0	11	15	11	5	s.	E. F. Parr.
Enid	Tallahatchie	.....	1	.....	.....	.....	.....	.....	.....	.....	8.99	.....	2.66	0.0	14	.....	.....	.....	s.	Tallahatchie Dng. Com.
Fayette	Jefferson	270	9	79.0	.....	95	29	60	20	25	4.99	.....	1.23	0.0	11	9	22	0	sw.	T. L. Darden.
Greenville	Washington	126	23	81.1	− 0.7	97	30	64	20	26	5.26	+ 0.95	1.75	0.0	14	15	4	12	se.	F. L. Harrison.
Greenwood	Le Flore	140	10	80.0	− 0.7	99	30	62	19	27	6.33	+ 0.79	1.65	0.0	16	14	8	9	sw.	J. H. Stephen.
Grenada	Grenada	194	1	.....	.....	.....	.....	.....	.....	.....	8.73	.....	4.00	0.0	10	10	11	5	sw.	Tallahatchie Dng. Com.
Hernando	De Soto	391	22	78.4	− 1.8	94	25†	61	19	24	8.07	.....	1.50	0.0	16	11	8	12	s.	Mrs. Sarah B. Jones.
Hickory Flat	Benton	435	1	.....	.....	.....	.....	.....	.....	.....	5.02	.....	0.94	0.0	12	1	30	0	sw.	Tallahatchie Dng. Com.
Holly Springs	Marshall	600	23	78.1	− 2.2	93	29	60	19	23	3.24	− 1.07	1.02	0.0	14	13	0	18	se.	L. B. Mosby.
Kosciusko	Attala	437	20	78.3	− 1.4	94	30	64	21	23	8.78	+ 3.97	3.00	0.0	18	13	16	2	s.	E. L. Lucas.
Lake Cormorant	De Soto	206	1	.....	.....	.....	.....	.....	.....	.....	4.56	.....	1.42	0.0	15	0	29	2	sw.	Tallahatchie Dng. Com.
Lula	Coahoma	182	1	.....	.....	.....	.....	.....	.....	.....	8.32	.....	1.53	0.0	15	15	5	11	.....	Do.
Malone	Marshall	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.
Marks	Quitman	163	1	.....	.....	.....	.....	.....	.....	.....	11.96	.....	2.00	0.0	16	.....	.....	.....	.....	Do.
Natchez	Adams	206	22	81.9	+ 0.1	99	30	66	20	25	6.47	+ 1.27	2.81	0.0	16	4	9	18	s.	J. C. Weir, Jr.
New Albany	Union	398	1	.....	.....	.....	.....	.....	.....	.....	6.91	.....	1.30	0.0	12	11	19	1	s.	Tallahatchie Dng. Com.
Pontotoc	Pontotoc	475	21	77.7	− 1.2	91	29	60	19	22	9.64	+ 4.78	3.25	0.0	12	10	15	6	se.	Dr. C. W. Bolton.

TABLE 1.—*Climatological data for July, 1910. District No. 7*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Mississippi—Cont'd.																			
Port Gibson	Claiborne	116	22	80.0	− 1.1	97	29	61	20	27	2.44	− 2.14	0.73	0.0	11	14	6	11	e.	H. H. Crisler.
Rosedale	Bolivar	143	2	80.3	.....	96	30	62	19	24	8.08	.....	2.00	0.0	8	14	7	10	sw.	T. J. Murray.
Senatobia	Tate	284	1	.....	.....	.....	.....	.....	.....	.....	7.38	.....	1.47	0.0	16	21	0	10	sw.	Tallahatchie Dng. Com.
Shoccoe	Madison		7	78.7	.....	97	30	63	19†	25	5.39	.....	1.51	0.0	13	17	9	5	s.	J. C. Pitchford.
Suffolk	Franklin		9	80.2	.....	95	24†	64	20	25	7.80	.....	1.80	0.0	18	7	17	7	sw.	Prof. Geo. H. Kent.
Swan Lake	Tallahatchie	148	9	.....	.....	.....	.....	.....	.....	.....	8.07	.....	1.68	0.0	12	.....	.....	.....	.....	B. F. Saunders.
Tchula	Holmes	130	5	80.0	.....	97	30	63	19†	28	6.83	.....	2.00	0.0	10	11	15	5	w.	Dr. M. P. Winkler.
University	LaFayette	502	17	78.6	− 0.8	93	29	61	19	23	11.71	+ 7.29	3.45	0.0	14	16	9	6	s.	Prof. J. H. Dorroh.
Utica	Hinds	287	6	79.6	.....	95	30	66	20†	24	6.12	.....	1.50	0.0	11	3	13	15	s.	Dr. J. B. Dudley.
Vicksburg	Warren	247	39	79.5	− 0.9	94	30	67	20	21	5.27	+ 0.85	1.94	0.0	10	1	20	10	s.	U. S. Weather Bureau.
Water Valley	Yalobusha	300	21	78.9	− 1.3	94	29	61	19	26	10.27	+ 5.89	2.80	0.0	14	16	6	9	s.	Miss Louila Erikson.
Woodville	Wilkinson	560	17	79.1	− 2.3	92	24†	66	20	22	9.20	+ 1.72	2.11	0.0	18	9	18	4	sw.	James E. Lee.
Yazoo City	Yazoo	116	16	80.6	− 1.4	97	30	63	20†	26	5.25	+ 0.69	1.60	0.0	9	11	13	7	sw.	W. H. Courts.
Louisiana.																				
Abbeville	Vermilion	18	22	81.4	− 0.1	96	30	70	19†	21	9.95	+ 2.27	1.75	0.0	22	6	10	15	sw.	Hon. C. J. Edwards.
Alexandria	Rapides	77	19	81.7	− 0.3	98	29	63	20	27	3.29	− 2.49	0.85	0.0	12	9	6	16	s.	Miss Nellie Graham.
Amite	Tangipahoa	130	22	80.8	− 0.5	97	29	67	26	24	8.87	+ 1.02	1.60	0.0	18	5	26	0	s.	Miss Lula M. Wentz.
Baton Rouge	E. Baton Rouge	35	22	81.8	+ 0.6	96	17	71	14†	21	9.43	+ 2.90	2.48	0.0	20	18	3	10	e.	Elmo M. Bott.
Burnside‖	Ascension	20	10	80.8[d]	− 0.2	94[d]	23†	70[d]	12†	24[d]	9.63	.....	1.55	0.0	18	3	10	18	sw.	C. S. McFarland.
Burrwood	Plaquemines	1	20	82.5	+ 0.1	93	8	70	2	16	11.48	+ 4.21	2.97	0.0	14	19	7	5	sw.	Graham Myers.
Cades‖	St. Martin			79.3[f]		93[f]	30	69[f]	19	20[f]	9.02		1.75	0.0	15					C. E. Smedes.
Calhoun	Ouachita	180	17	81.3	+ 0.2	98	22†	61	20	36	2.35	− 2.21	1.02	0.0	8	7	20	4	sw.	N. L. Exp. Station.
Cameron	Cameron	6	15	79.4	− 2.4	90	25†	69	19†	21	9.87	+ 1.53	5.12	0.0	5	10	14	7	sw.	State Biologic Station.
Cheneyville	Rapides	67	20	81.4	− 0.2	96	17†	67	21	27	8.83	+ 3.22	4.00	0.0	14	12	8	11	s.	Walter I. Tanner.
Clinton	East Feliciana	113	20	79.5	− 1.1	91	30	67	26	19	10.94	+ 4.02	2.62	0.0	19	6	10	15	s.	John A. White, Jr.
Collinston	Morehouse	65	8	81.4[d]		97[c]	30	64[d]	20	25[a]	4.41			0.0						W. A. Page.
Covington	St. Tammany	39	17	80.9	− 1.4	96	30	63	2	24	7.16	− 0.50	1.70	0.0	18	10	9	12	s.	Mrs. Lucille Champagne.
Dodson	Winn		1	80.8		99[a]	29	63[a]	20	29[a]	3.58	.....	0.91	0.0	9	11	16	4	sw.	J. P. Lucas.
Donaldsonville	Ascension	33	20	81.0	− 0.2	94	8†	68	20	22	5.16	− 1.04	0.80	0.0	17	21	1	9	s.	John F. Park.
Farmerville	Union	177	20	79.2[b]	− 2.0	92[b]	31	63[b]	19	22[c]	9.18	+ 4.76	2.60	0.0	10	11	16	4	s.	W. P. Chandler.
Ferriday	Concordia		3	80.2		94	29	63	20	25	6.03		2.30	0.0	12	14	12	5	s.	R. Z. Selater.
Franklin	St. Mary	10	18	82.0	− 0.1	97	29	70	19†	23	10.89	+ 1.14	1.55	0.0	24	6	14	11	s.	Miss Josephine M. Bonney.
Grand Cane	De Soto	302	4	81.8		98	29†	63	20	27	1.22		0.40	0.0	4	15	2	14	s.	Charles M. Huson.
Grand Coteau	St. Landry	93	23	81.4	+ 0.2	95	28	67	2	23	11.05	+ 4.55	3.28	0.0	17	9	21	1	sw.	St. Charles College.
Hammond	Tangipahoa	44	15	81.2	− 0.2	98	29	67	2	25	12.48	+ 5.78	2.28	0.0	18	8	21	2	sw.	C. C. Carr.
Houma	Terrebonne		19	81.0	− 0.2	97	29	69	12†	26	15.81	+ 6.57	2.80	0.0	14	0	0	31	sw.	Prof. H. M. Foote.
Jena	Catahoula			.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. S. Harrell.
Jennings	Calcasieu	30	12	81.5	+ 0.1	97	31	68	3	25	8.89	+ 2.93	2.57	0.0	18	1	25	5	se.	J. F. Buch.
Lafayette	Lafayette	36	21	80.2	− 1.0	92	17†	70	3†	19	10.90	+ 3.97	2.31	0.0	22	6	14	11	w.	J. J. Davidson.
Lake Charles	Calcasieu	22	22	81.6	+ 0.4	98	6‖	64	20	31	11.89	+ 5.44	4.18	0.0	9	17	2	12	sw.	A. O. Boudreaux.
Lakeside	Cameron		9	81.7	.....	95	31	70	5†	21	12.30	.....	3.90	0.0	13	17	0	14	sw.	Miss L. T. Nunemacher.
Lawrence	Plaquemines	6	18	80.0	− 2.6	99	29†	69	20	25	8.37	+ 1.13	2.46	0.0	20	7	15	9	s.	H. C. Warmoth.
Leesville	Vernon		2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. M. McFarland.
Liberty Hill	Bienville		23	85.1	+ 2.6	100	28	63	20	26	5.54	+ 0.40	3.45	0.0	7	13	14	4	s.	Dr. E. A. Crawford.
Logansport	De Soto	192	6	.....	.....	.....	.....	.....	.....	.....	3.36	.....	1.20	0.0	6	10	6	15	s.	Mrs. Bettie M. Dennis.
Melville	St. Landry	45	21	80.2	− 1.5	95	29	67	19	25	10.00	+ 4.20	2.47	0.0	15	13	10	8	se.	Chas. B. McNeill.
Minden	Webster	194	18	80.8	− 1.6	100	30	60	20	28	3.64	− 0.56	1.78	0.0	7	7	16	8	s.	Miss Ethel Fort.
Monroe	Ouachita	82	22	81.4	− 0.8	98	29	65	20	26	4.00	− 0.76	1.34	0.0	11	23	1	7	n.	Kenneth F. Stiles.
Morgan City	St. Mary	14	5	.....	.....	.....	.....	.....	.....	.....	15.43	.....	6.00	0.0	14	7	14	10	s.	Virgil E. Kinsey.
Newellton	Tensas		3	80.4		95	29	62	20	24	3.70	.....	1.47	0.0	8	11	18	2	s.	John D. Fultz.
New Iberia	Iberia	15	20	81.5	0.0	93	7	71	26	19	9.82	+ 2.23	1.15	0.0	22	0	25	6	se.	Mrs. Jno. A. Gebert.
New Orleans (1)	Orleans	51	40	81.2	− 0.1	95	29	68	15	18	6.40	− 0.07	2.57	0.0	16	5	25	1	s.	U. S. Weather Bureau.
New Orleans (2)	....do	18	21	81.8	− 0.5	97	29	69	19†	25	6.80	+ 0.26	1.40	0.0	22	6	8	17	s.	Sugar Exp. Station.
Opelousas	St. Landry	83	18	81.4	− 0.2	97	25	69	2†	27	11.88	+ 5.29	2.25	0.0	22	16	6	9	e.	Andrew Moresi.
Paradis	St. Charles			.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Louisiana Meadows Co.
Plain Dealing	Bossier	268	18	82.2	+ 0.7	101	30	60	20	32	1.12	− 3.98	0.49	0.0	8	10	18	3	se.	Leon Sanders.
Rayne	Acadia	44	18	82.0	− 0.2	96	29	68	20	24	10.22	+ 3.39	2.35	0.0	14	14	3	14	s.	A. P. McNeil.
Reserve‖	St. John Baptist		8	83.2		104	29	65	4	33	7.24		1.66	0.0	13	2	16	13	.....	Leon Godchaux Co., Ltd.
Robeline	Natchitoches	147	13	80.4	− 0.7	97	29	60	20†	31	4.23	− 0.47	1.65	0.0	7	14	7	10	s.	Miss Ruby McCook.
Ruston	Lincoln	312	13	81.1	− 1.0	96[a]	29	67[a]	18†	26[a]	4.87	− 1.03	1.83	0.0	8	14	12	5	s.	J. C. H. McKinney.
St. Francisville	West Feliciana	115	6	80.3	.....	93	15†	56	24	36	7.04	.....	2.99	0.0	10	19	0	12	s.	L. P. Kilbourne.
Schriever	Terrebonne	17	17	81.3	− 0.6	97	31	63	12	30	10.81	+ 1.80	2.40	0.0	21	22	0	9	e.	Chas. V. Moore.
Shiridan	Washington			.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	D. A. Self.
Shreveport	Caddo	249	39	81.8	− 0.3	96	29	65	20	22	1.44	− 2.28	0.70	0.0	6	16	12	3	s.	U. S. Weather Bureau.
Simmesport	Avoyelles		5	.....	.....	.....	.....	.....	.....	.....	7.48	.....	1.60	0.0	16	5	10	16	sw.	C. T. Leigh.
Southern Univ. Farm	Jefferson		15	.....	.....	.....	.....	.....	.....	.....	6.52	+ 0.63	1.75	0.0	20	3	17	11	se.	F. L. St. Martin.
Sugartown	Calcasieu		17	81.2	− 0.5	93	29†	68	20	19	10.94	+ 5.77	2.16	0.0	13	0	31	0	.....	G. W. Richardson.
Tallulah	Madison	91	2	80.4	.....	98[b]	30	60[b]	20	28[b]	2.67	.....	1.42	0.0	10	0	30	1	.....	C. E. Speed.
Walker	Livingston			.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. C. Fondren.

[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
* Precipitation included in that of the next measurement.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
‡ Separate dates of falls not recorded.
‖ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
‖ Estimated by observer.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

CORRECTION: On page 1088, December, 1909, Monthly Weather Review, District No. 7, Table 3, the maximum and minimum temperatures for December 22, from Paris, Tex., to Bartlesville, Okla., are in error. The correct values are as follows: Paris, 52, 20; Dodge City, 30, 6; Ellinwood, 33, 8; Iola, 30, 12; Liberal, 32, 13; Wichita, 33, 17; Ardmore, 41, 19; Bartlesville, 36, 12.

TABLE 2.—*Daily precipitation for July, 1910. District No. 7, Lower Mississippi Valley.*

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Colorado.																																	
Blaine	Cimarron				T.			.11					.02	T.															.33	.42		0.88
Buena Vista	Arkansas																		.25		.10								.55	.55	.25	.10	1.80
Calhan	Big Sandy	.25	T.		T.		T.					T.	.01					.56			1.45	.27	.07	T.					.10	1.92	1.08		5.71
Canyon City[1]	Arkansas		.11			T.	T.			T.		T.	.04	.05	.01						.01	T.	T.	.04	.04				T.	.14	.26	.12	0.82
Colorado Springs	Fountain	.02		.09							.03	.01	.05	T.				T.		.14	T.	.04	T.	.26	.03				.55	2.49	.16	.01	3.88
Cripple Creek	Oil Creek	.04	.03	.04								.52	.33				.02		T.		.56	.22						T.	.60	.18	.87	.28	3.69
Cuchara Camps	Cucharas												.12								T.	1.04	.03	.02				.02	.08	1.12	.20	.81	3.44
Eads	Big Sandy																																
Fairview	St. Charles										.01			.03	.06						.08	.04	.02	.03	.05					.78	.21		1.31
Florence	Arkansas																																
Fremont	Fountain	.17	.04	.03	T.	T.	T.				.05	.04	.25	T.					.01	.09	.14	.37	.03	.20	.16	.62			T.	1.87	.34	.03	4.44
Garfield	Little Arkansas				T.					T.		.05		.13				.21	.07	.17	.04	.09		.23	T.			.03	.14	.03	.57	.20	1.96
Glen Eyrie	Fountain	.01										.03	.01							.01	.01									.06	.07		0.20
Hamps	Big Sandy		T.	.12							.18	.12									.08	.05							1.41	.35		2.31
Hermit Lake	Grape Creek												.36	.45							.34				.18			.02	.19	.45	.89	.03	3.81
Hoehne (near)	Purgatoire	.11	.02								.10	T.		.10								.13	T.	T.	.02					.20	.55	1.02	2.25
Holly	Arkansas	.38											.65		.03								10							.20			1.36
Lake Moraine	Fountain	.15	.12	T.	T.						.12	.20	.44						.19	.24	.06	.09	.08							1.70	.72	.05	4.16
Lamar	Arkansas											.09												.25	1.15	.08				.19			1.76
Las Animas	...do					T.	.15			.17	.22	1.23	.12																.78	1.12	.22		
La Veta Pass	Cucharas																																
Leadville	Arkansas				.07	.04												.04	.01	.13	.01	.18	.01					.09	.07	.48	.72	.09	1.94
Limon (near)	Big Sandy											.40									.13	.09							.08	1.60			2.30
Madrid	Purgatoire	.06										.02	.02								.30	.12							.04		.32	.52	1.40
Marshall Pass	Arkansas																																
North Lake	Purgatoire										.35	.23								.50	.40	.22	.11		.13					.05	.41	1.12	3.52
Pueblo	Arkansas	.08			T.	T.			T.		.01	.02	.14	T.						.77	T.		T.	T.					T.	.92	T.		1.94
Rockyford (near)	...do	.45					.19					.23	.08								.14				.46				.91	1.03	.09		3.58
Saint Elmo	Chalk Creek				.10	.13				.07		.13			.15			.04		.24	.04	.10	T.		.05				.16	.53	.37	.25	2.36
Salida[1]	Arkansas					T.					.05		.15	.02	.08						.10	.10	.10	.12	.45	.15			T.	T.	.20	.38	1.90
Sheridan Lake	...do	.41																				T.								.34		0.75
Stonewall	Purgatoire										.20	.06	.04	.01							.05	.51	.08		.43					T.	.34	.31	2.03
Trinidad	...do	.02									.33	.18									.30		.10		.08				.10	.40	.84	.25	2.55
Victor	Oil Creek			T.	T.	T.						.30	.25								.27	.05	.32	.15						1.13	.82		3.29
Vilas	Cimarron													.25											T.					.46	.79		1.50
Westcliffe	Grape Creek						T.						.15	.03					T.		.10							.10	.13	.78	.87	.06	
Winfield	Clear Creek	T.			.30	.33					T.	.01	T.	T.			T.	.03	.01	T.	.01	.12	.06		T.			.11	.02	.01	.31	.05	1.37
Wortman	Arkansas			.20	.10	.15		.10		T.	T.	T.			T.			.12	.02	T.	T.	T.	T.		T.		.31	.12	T.	.41	.48	.21	2.22
New Mexico.																																	
Abbott	Canadian										.16	.07									.14		T.	.30	T.	.02				.85	.65	.12	2.31
Albert	...do		.50									.43											T.						.19		.59	T.	1.71
Arch (near)	Red			.08			.40			.50			.20									.10											1.28
Aurora	Canadian			.12						.08	.04	.32	.09	.01		.13					.10	.08	.02	.05	.08		.30		.31	.82	1.07	.16	3.78
Bell Ranch	...do	.12						.62				1.14	.05								.18		.22		.08					.04	.20	.13	2.78
Black Lake	...do												.19			.01			.15		.06	.08							.07	.04	1.14	1.36	3.10
Cabeza	...do	.40	.30										T.																		1.10	.90	2.70
Campana	...do		.11					.12			T.	T.											.08		.12				T.	1.04	.42	1.89
Chacon	...do									.32			.20		.31				.12		.15	.10	.08			.04		.06	.65		.55	.14	2.72
Cimarron (near)	...do			T.	.01	.01		T.		T.	T.	.15	T.	T.							.05	.05	T.	T.	T.	T.	T.		.07	.03	.47	.57	1.41
Clayton	...do	.62	.05	.20		.26						T.									T.				T.		T.			.40	.37	.98	2.88
Clovis	Red																																
Cuervo	Canadian						.02			T.			.25												.20						.06	.05	0.58
Dawson	...do	.02	T.	T.			T.														.12		T.	T.					T.	T.	.80	0.94
Dorsey (near)	...do	.03									.10											.30		.02					.03	.17	.07	0.72
Elizabethtown	...do										.80	.12	.14	.22							.30	.07								.87		2.52
Folsom	Cimarron			.20		T.	T.	T.	.02	T.			19								.18	.02		.16	.94	.03			.08	.38	.02	2.22
Fort Union	Canadian								.10	T.	T.	.05	1.30								.20	.25		.10	.05				.50	.65	1.00	4.20
Hayden	...do																																
Johnson's Park	...do		.03	.26			T.				.07										.24		T.	T.	.12	T.			2.50	T.	T.	3.22
Kappus	...do																																
Lake Alice	...do		.13								.44										.09				.05	.13				.67	.14	.13	1.78
Logan	...do		.22					.33																			.40				.29	1.44	2.68
Los Alamos	...do											.15	.04	1.38											.30	.08				.20	.66	2.81
Lykins (near)	Red					.05	.28	.08		.08		.33	.60									.14			.05			.07		.42	.40			2.50
Maxwell (near)	Canadian	.10									.25	.08																		.12	.20			0.75
Melrose	Red																																
Miami Ranch	Canadian																				.13				.10		.06					.13		0.42
Montoya	...do									.05	.90	.20									T.					.23				.20	.11			1.69
Mt. Dora	...do																																
Nara Visa	...do	T.	.10			T.	T.	.21													T.	T.		.06	T.	.92				.18	.66	2.13
Optimus (near)	...do																																
Pasamonte	...do										.15																		2.30	.50			2.95
Raton	...do	.02	.18								.05											.08		.20	.05			.15	.60	.10	.78	2.21
Rociada	...do											.07										.23		.03	.05				.03	.25			0.66
Rosebud	...do																																
Roy	...do	.17									.50	.08					.06				T.	T.				.10			1.70	.22	.55	3.38
San Jon	...do	.02	.11				.03	.26	.02			.03	.39									T.		T.	T.				T.	.15	.39	1.40
Solano (1)	...do	.25	.06					.06	T.			.20					.03													.05	.45	1.10
Springer	...do																				.15			.05	.05				.05	.80		1.10
Taylor	...do																												1.13	.92	.03	2.08
Trementina	...do		T.								T.			.58							.15								.13		.28	1.14
Tucumcari (1)	...do							T.			.05	.11													.43	.18				.05	.75	.20	1.77
Valley	Cimarron																					T.			T.			10		.30	.40		1.00
Vermejo Park	Canadian											.10	.12									.34			T.			T.		.05	T.	T.	0.61
Wagon Mound (near)	...do				.15			T.	T.	T.	.31	T.	.04				.02				.07	.58	.07	.20	.02				.23	1.53	.26	3.48
Texas.																																	
Amarillo	Canadian	.21	.01			.05	.07		.32	2.05	.02								T.													.84	3.57
Archer City	Red						T.		.32		.18	.33	.02	.51																			1.36
Arthur City[1]	...do			.76																											.40	1.16
Bonham	...do											T.	T.																		T.	T.	
Canadian	Canadian																																
Childress	Red							.85			.40																				T.	1.25	
Chillicothe	...do											1.42																					1.42
Clarendon	...do	T.							.30			T.	.64																				0.94
Clarksville	...do	.15						T.					.09	.80																	T.	1.04	
Claude	...do	.71																													1.35	2.06	
Dalhart[1]	Canadian	1.27	.03															.38							.14						.26	.70	2.80	
Denison[1]	Red				.14			.26	.02		T.	.10								.28												T.	0.80	
Finley[1]	...do																															.10	0.10	
Henrietta[1]	...do								.05	T.		.47	.95	.90	1.14																		3.51	
Hereford	...do	.77							.40	2.25			.10																				3.52	
Lewis Ferry[1]	...do					.08		.50																									0.58	
Memphis	...do										.49		.28							.15	.02												0.94	
Miami	Canadian	.40						.01					.94																			.82	2.17	

TABLE 2.—*Daily precipitation for July, 1910. District No. 7*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Texas—Cont'd.																																	
Mobeetie	Red																														2.06		2.06
Nazareth	...do	.67	.11			T.		.12	.08	.16			.52																				1.66
Ochiltree	Canadian	.70	.05			.02				.35	.27		.55																				1.95
Pampa	...do																																
Paris‖	Red		.14	.05				.09	T.					.40					.02												.02	0.72
Plemons	Canadian	.50				T.	1.07		.03	.20	.24		1.02																		.49	3.55
Quanah‖	Red		T.						1.30				1.05																			2.35
Ringo Crossing‖	...do																																0.00
Romero	Canadian	.12	.33			.05	.14				.05											T.	.15			.07					.02	.45	1.38
Sherman‖	Red			T.				1.66	.22	T.		.07		.10						.03											T.	2.08
Sulphur Springs‖	...do							1.80										T.								T.						1.80
Tedine‖	Canadian	.96	.05				T.						.08											T.	T.						.35	2.30
Tulia	Red	.50	T.				.99		.76	.26			T.	T.					T.		T.	T.									.04	2.55
Winfield	...do					T.		.18					T.	.17				T.													T.	0.35
Kansas.																																	
Alden‖	Arkansas																																
Anthony	...do						T.	.25				1.08											.01								.18		1.52
Ashland	Cimarron			.20			T.		.32		1.05		.75						.07												.20	.06	2.65
Burlington	Neosho		.30				.09				.29	1.19											.02		.04								1.93
Caanute	...do		T.		.22				.24				.84												T.						.21		1.51
Cimarron	Cimarron	.25						1.01				T.	.61									.20	.10								.10	T.	2.27
Coldwater	...do		.77	.11			T.		.11		.19		1.08										.09								.06	T.	2.41
Columbus	Neosho																																
Coolidge	Arkansas	.74										.14	.62																	.08			1.58
Cottonwood Falls	Neosho		.13	.19			.19		.11		.31		1.13							T.			.01		.10						.08		2.25
Council Grove	...do	.35					.25	.35				.50			.38																		1.83
Cunningham	Arkansas								.33		T.		.90									T.									T.		1.23
Dodge City	...do						.01	.19			.02	1.19	.18									.09	.17								.01	T.	1.86
El Dorado	...do			.08							.15	1.60																					1.83
Ellinwood	...do			.21		T.	.65	T.			.05	.90	.54																				2.35
Emporia	Neosho		.34	.15			.08		.45		.08		.91																		.07		2.08
Eureka	Verdigris		.52				.06				.04		1.12						T.						.02						T.		1.76
Fall River	...do		.02				T.		T.	T.			1.00												T.						.40		1.42
Fargo	Cimarron		.10									T.	.32										T.		T.						.48		0.90
Fredonia	Virdigris																																
Garden City	Arkansas							.50					1.50						T.				.21	.10	.95						.10		3.36
Great Bend‖	...do						.60						1.16																				1.76
Greensburg	...do		.18					.25			.83		1.35																		.01		2.62
Grenola	Verdigris		.25				T.					.07	.55										T.								.45		1.32
Howard	...do		.27										.86										T.		T.						1.13		2.26
Hugoton	Cimarron	.88				T.					T.		.63												.53						1.33	.23	3.60
Hutchinson	Arkansas						.01	.76			.08		.71										T.										1.56
Independence	Verdigris		.06		.03		.32						.32			T.							T.							.07	.46		1.26
Iola	Neosho		.36				.01	.12			T.	.31	.05		T.	T.							T.	T.	T.						T.		0.85
Irene	Arkansas	.83			T.	.04		T.				.02	.10	T.								T.		T.	T.						.26	.04	1.19
Jetmore	...do		.04	.05			T.	.42					1.86										.12								T.		2.49
Kingman	...do						.07		.31		.09		1.45										.02									.02	1.96
La Crosse	...do					1.06	.68	.12				.40	.35										T.	T.							T.		3.61
Lakin	...do	.93				T.		.10				1.10																					2.89
Larned	...do			.18			.4		.10				1.63																		T.	T.	2.36
Lebo	Neosho		.32				.04		.21		.09	.84	.21		.04								T.		T.		T.				T.		1.75
Le Roy‖	...do			.22			.05		.06		.23		.54			.10			T.				T.	.08							T.	T.	1.28
Liberal	Cimarron	.73				T.	T.	.04		T.	.06		.92		T.							T.	T.								1.47	.17	3.39
McPherson‖	Arkansas						.27		.54		.08		.94		.03																		1.86
Macksville‖	...do			.13			.11		.26		.10		1.68																			.04	2.32
Madison	Verdigris		.24				.44				.27		.55		.03								.02		T.								1.55
Marion	Neosho			.52		.09		.24			.03	.28	.78		.01			T.	.01	T.			T.		T.						.03		1.99
Medicine Lodge	Arkansas							.10		.07		2.22											.05								.10	T.	2.54
Medora	...do						.04		.43				1.17																				1.64
Mt. Hope	...do							.33			.31		1.58																				2.22
Neosho Rapids‖	Neosho		.06				.03	.22			.05	.80																		.02			1.18
Ness City	Arkansas					1.44		.33				.84											.23	.10								.18	3.12
Newton	...do						.08				.20		1.50																				1.78
Norwich	...do						.02		.18		T.		1.78								T.		T.								.05		2.03
Oswego	Neosho	.08	.43	.35				.05		.04	.02	.11	.20											.08							1.22		2.58
Plains	Cimarron								.20				.70																		.80	.04	1.74
Pratt	Arkansas			T.				.20		.23		.98						T.													.35		1.76
Rome	...do								1.20				2.23																				3.43
Sedan‖	Verdigris			.05			.08	T.					.20																		.04		0.37
Toronto‖	...do			.52									.95																				1.47
Ulysses	Cimarron	.02				T.							.20											T.	T.						.60		0.82
Walnut	Neosho		1.57	.40						.67			1.37			.40						.10		.05							.40		4.06
Wichita	Arkansas		T.				T.	.03			.19	.84	.14							T.					T.						.04		1.24
Winfield	...do						.33	.50				1.75																				T.	2.58
Yates Center	Verdigris		.11				.02		.21				.79									T.									.10		1.23
Oklahoma.																																	
Ada	Canadian																																
Alva	Arkansas																																
Apache	Red								T.	.05	.09	.10	.66						.25														1.15
Arapaho	Washita		T.				T.	.52			.26		.10																		T.	.58	1.46
Ardmore‖	Red							1.15				1.75	.90	.70	.12																		4.62
Bartlesville	Arkansas		.18				.15						.12																		.10		0.58
Beaver	Canadian	.10					T.	.01		.33			1.62										T.								.80	.33	3.19
Blackburn	Arkansas												.10																				0.10
Cache	Red											.30	.30	.20																			0.80
Calvin	Canadian	.04	.10				.08				.04	.80	1.16	.22																		.02	2.46
Chandler‖	...do											T.	.42	.21	.05																		0.68
Chattanooga	Red										.05	.53	1.16																		.10		1.84
Chickasha	Washita		T.	T.			.22	.50				.25	1.50						.05													.10	2.62
Cloud Chief	...do												.20																				0.20
Dacoma	Cimarron			.10					.15	T.		.35																			.07	T.	0.67
Durant‖	Red		T.	T.				.21		.21		.49		T.			.66			.29												T.	1.86
Eldorado	...do																																
El Reno	Canadian									.13	.15		.21																		T.	T.	0.49
Enid‖	Cimarron							.04			.03		.07											T.										0.14
Erick	Red		.62			T.		T.			T.		.06																				0.68
Fairland	Arkansas		.09	1.26	.03	T.	.14				.45	.34	.50																		.31		3.12
Fort Gibson	...do		T.	T.	.04		.05				2.50	3.60	.63	.45																		T.	7.27
Frederick	Red								.08		T.	1.01	.05							.13											T.		1.27
Gate	Canadian	.28						T.			.91		.36																		.02	.04	1.61
Goodwell	...do	1.13	.18					.33		.02			.18												.18						.95	.72	3.69
Guthrie	Cimarron																															1.50	1.50
Guymon	Canadian	.25				.29	.52			.27			.39																	.97	.37	1.22	4.28
Harrington	Red		.60								1.27																						1.87

TABLE 2.—*Daily precipitation for July, 1910. District No. 7*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Oklahoma—Cont'd.																																	
Hartshorne	Canadian	1.10		.15				.70			.35	.55	.30																		T.	3.15
Healdton	Red							1.98	T.	T.	T.	3.01	.66	1.52					.06													7.23
Helena	Cimarron												.30										T.								T.	0.30
Hennessey	...do					T.			T.																						T.	T.
Hobart	Red		T.				T.		T.	.04	T.	.15	.02				T.															0.21
Holdenville	Canadian			T.				.75				2.07	.82	.56																		4.20
Hooker	...do	.67	.67			.37		.27			.05		.28																		.57	.34	3.22
Hurley	...do																			T.											.66	.42	1.24
Idabel	Red																																
Jefferson	Arkansas												.39																				0.39
Kenton	Cimarron	.63			T.	.04			.10			1.23	.04		.33						T.			.05	.28					.90	.03	3.63
Kingfisher	...do		T.				T.		.49	.05	.15	T.	T.																		1.21	1.90
McAlester	Canadian	.29		.28				.09			.19	.36	.32																			T.	1.53
McComb	...do												1.00																				1.00
Mangum	Red	.07							.05		.30	.02	T.	.10																			0.54
Marlow	Washita																																
Meeker	Canadian									.70		1.30	.65																		.15	2.80
Muskogee	Arkansas	T.	T.	T.			T.				2.53	4.65	.95																		.03	8.16
Mutual	Canadian								.24																						.17	0.41
Neola	Washita		.25				.60		T.	.21	T.		.50	.10			.33														T.	1.99
Newkirk	Arkansas						.50		T.				1.00																		.52		2.02
Norman	Canadian																																
Oakwood	...do							.08			.47		T.										T.								.11		0.66
Okeene	Cimarron			T.			T.	.45	.10		.14		.06										T.								.01	.02	0.78
Oklahoma	Canadian						.01	.13		.01	.02	.01	.43				T.														.02	.31	0.94
Okmulgee	...do						.30			T.	1.95		1.67																			.25	4.17
Pauls Valley	...do																																
Pawhuska	Arkansas		.85	.05			T.					.40	.43																		.02		1.75
Perry	...do									T.	T.		T.										T.									.03	0.03
Ravia	Washita		.10					1.05	.03		.02	1.40	.10	.15																			2.85
Sac & Fox Agency	Canadian																																
Shawnee	...do			.27				T.				T.	1.50	.63	.23																	T.	2.63
Snyder	Red											19	.43	.40					.03														1.05
Stillwater	Cimarron								T.	T.		.07	.02																			.25	0.34
Supply	Canadian		.04				T.		.13	.31	1.76		.12										T.	.15							1.24	1.03	3.78
Tulsa (1)	Arkansas		1.10	.22	.20			T.			.05	.70	.70	T.																		T.	2.97
Vinita	...do		T.	.50	.25		T.				.25	.50	1.05																		.50		3.05
Wagoner	...do	.03	T.		T.		.10				.77	.86	1.22																		.15	.14	3.27
Waukomis	Cimarron	T.	T.				T.			T.	T.		.02										T.								T.	.11	0.13
Waurika	Red							T.			1.02	.31	.77	.72																			2.82
Weatherford	Canadian								.78		.09		.24	.04									T.								T.	.20	1.35
Webbers Falls	Arkansas						.65			1.05	.75	.85	3.30																			.05	6.65
Waiteagle	...do												.07																		2.35	2.42
Woodward	Canadian							.24			1.04		.26																			.08	1.62
Missouri.																																	
Belle	Meramec		T.	.85							3.18		.25		T.	1.22			T.						.45								5.95
Birchtree	Black	.35	.07		2.97	.14				.30	1.37	.54	.25				1.90							.35							2.30		10.54
Cape Girardeau	Mississippi	.01	T.	.02	.60	.24	.01				1.52	.28	.20				2.30		2.20													.36		9.34
Caruthersville	...do	.22	.10	.68	.13	.18	.54	T.		.32	.40	.03	.09				T.		T.					.35	.22		.15				.89		4.30
Dean	Neosho	.26	.61	T.				T.				89	1.81											2.80							.63		7.00
Doniphan	Black	.20	.70	.64	.27					1.85	.71	.10	.25		.32																1.30		6.34
Farmington	Mississippi																																
Gano	Meramec	.48	.39	.07						.12	1.96	.14	.17		.31	.76	.12	.33						T.	.06								4.91
Goodland	Black	.42	1.01		.46	.50				.15	1.75		.55		.40	1.19		.65									.10			.13			7.31
Greenville	Mississippi	.18	1.30	.26	2.35	.54	.05			.50	1.20	.10	.10		.46		1.28	1.00	.48								.45				1.20		11.45
Hollister	White																																
Ironton	Mississippi		.20	1.05	.02	.30	T.	T.			.60	.32	1.15			.07	3.15		.80							T.	T.	.33		T.		7.99
Jackson	...do	.03	.35	.07		1.07			.86		.27		.28		.02	4.36		1.30								.61	.21		.90			10.33
Joplin	Neosho	.65		.17	.10							.10	.50																		1.55		3.07
Koshkonong	Black	.30	4.15	.51	1.29	.22	.02			.50	2.05	.20	.12		.02								1.11								1.80		12.29
Lamar	Neosho		.28	.80	.92				.13			.24	.04			.02	.09		.23				1.14								.96		4.85
Marble Hill	Mississippi																																
Mountaingrove	White	.27	.04	.71	.18	.10		.45		1.02	.61	.67	.60		.04	.03	1.75							.27							1.75		8.49
Mount Vernon	Neosho																																
Neosho	...do		.47	.05						.06	.28	.33	.30			.01								.52							1.10	.01	3.13
New Madrid	Mississippi		.20	.25	.60	.25	.06	.04		1.05		.80	.12	.60			.04		.50								.45	.04			.60		5.00
Oakfield	Meramec		.66	.81	.13	T.					.80		1.43		.97	1.42		.86						.06	.19	1.58			T.			8.91
Olden	White	.91	.67	3.35	1.38	.05				.96	1.20	.10	.80		.55		.27							.45	.10						1.90		12.69
Perryville	Mississippi		1.00	.24	.74	1.50				.34	.45	.15	.04				2.80	1.20															8.46
Rolla	Meramec		.11	.02	.07						2.78	.03	.49	.01		.88	.05		.22					.15						T.		4.81
Sikeston	Mississippi	T.	T.	.65	1.25	T.	.50	.10		.30	.60	.20	.73	T.	T.	T.	.25		1.25							1.30					.45		7.58
Springfield	White	.54	.06	.71						T.	.14	.17	.31			.23	.21		.10				1.41						.07	.30		4.25
Steelville	Meramec		.25	T.				.35		2.50	.45	.25	.27			.25		.45					.03										4.80
Kentucky.																																	
Blandville	Mississippi	.13	.25	1.88	.07	.11	.08	.48		1.01	.11	.12	.11			T.	.15	1.99	.25						.30		1.16						8.20
Lynnville	...do	.75	.67	.35			.75		.30	.52	T.	.05	.03				1.00	.15	.50					.19	.60		1.99				1.49		9.34
Tennessee.																																	
Arlington	Mississippi	.82	1.14	.18	.65	1.73	1.10	.06	T.				T.	.17	.10										T.		.20						6.15
Bolivar	...do	.98	.28	.91	.18	.23	.53	1.56	T.	.02		.20	.04	.75	.38				.24	.22							.02	T.					6.54
Brownsville	...do	T.	.08	.78	T.	.30	.17	.12				.50	1.90	.69	T.					T.					.30	.09							4.93
Covington	...do	.47	.23	.22	.33						.23	.90	1.15	.25						.15					.10		.05						4.08
Dyersburg	...do	.25	.05	T.	.70	.50	.70	.40	T.			.38	.69	.10			.20			.65						T.	.30				.10		5.02
Jackson	...do																																
Kenton	...do	.15	.04	.63	2.00	.15	.88	.20		1.06	1.13	.44	.11		.16				.48				T.		.04		2.09						9.56
Memphis	...do	.54	.39	T.	.03	.09	.01	T.	T.				.02	.87			.13	.12						.14	.20								2.59
Milan	...do	.07	.18	.17	.05	.52	.09	2.00				.04	.06	.04	.05			.10	.53						.30	.08	.46	.50			.52		5.76
Trenton	...do	.12	.79	.21		1.52	1.08	.19			.10	.15	T.					T.							T.		.30				.10		4.56
Union City	...do	.04	.03	.32	.61	1.44	1.13			.67	.09	.08	.20				.06		.39						.10		.34			.06	.29		5.85
Arkansas.																																	
Alicia	White	.20	1.00	.90	1.05					.25	1.05	.25												T.									4.70
Amity	Ouachita	.15	.62	.06	T.	.15	.13	.14	T.	.23		.11	1.64	.05			.50		.16													.54	4.48
Arkadelphia (near)	...do		.25	.24	.22	T.		.03					T.	T.			.10		.40						.40							.29	1.53
Arkansas City	Mississippi	.10	.16	.86	1.94	.12	.20	.06		.10			.08		1.40	.96		.54	.36													.20	7.08
Batesville (2)	White	.38	1.01	1.30	1.92	.70					.04	1.58		.06					.02						.40						T.	T.	7.39
Bee Branch	Arkansas	.50	1.10	.30	.10						1.65	.60	T.				.45		.70				1.65								.10		7.15
Benton	Ouachita		.26	.20	1.00	.25	.22	.65				.15	.50				3.75		1.00														1.75	9.73
Bentonville	Arkansas	.88	.08	.38			.02				.22	1.97	3.53											.02							.44		7.54
Bergman	White	.63	.65		.43							.33	1.32						.48					.44							.08		4.36
Black Rock	...do	.40	.95	.21		.18					.19	.61	.40	.05			T.		.02						.76	.05					.10	.02	3.94
Brinkley	...do	T.	.40	.31	1.92	.13	1.68		1.23		T.	1.68		4.23	.30			.18	.38														12.44
Calico Rock	...do	.22	1.20	1.00	.20	.48				.08		1.20	.40	T.		T.									.48	.20					T.		5.54
Camden	Ouachita	.16		.04		.28	.20			.04			.02	.48				1.06	2.00													.06	4.24
Centerpoint	Red	.04		1.05	.17		1.70	T.	.05				1.70	T.				T.													T.	T.	4.71
Clarendon	White	.08	.79	.74	T.	1.75	3.90	.04	.23	T.	T.	.20		.30	.09			.24	1.05	.01					T.	T.						.04	9.46

TABLE 2.—*Daily precipitation for July, 1910. District No. 7*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Arkansas—Cont'd.																																	
Conway	Arkansas	.38	.98	.01	.70	.21	.33	.35		.01		T.	1.00				.49		.04					T.	.03					T.	T.	4.15	8.70
Corning	White	.01	1.77	1.67	1.58	.40	.02	.14		.47	.73	.14	.10			.10	.08		.22					.08	.02		T.			.15		7.68
Dardanelle	Arkansas	.34	.31	.04	1.34	.38				.16		.25	.64	.18	.25				.13						.76							1.16	5.94
Dennard	White																																
Dodd City	do	.41			2.49					.10			1.40											.65						.38		5.43
Dutton	do	.47	T.	.80							.40	.76	.70											.24						.10	.15	3.62
Earl	St. Francis																																
Eldorado	Ouachita	T.		.26	.17	.02	.57	.25	T.	T.	T.			T.	1.22			.30	1.90	.02											T.	4.71
England	Arkansas	T.	.73	.50	.15	.18	.96	T.	.32	T.	T.		T.	.45	1.35			.44	.60						T.	T.	T.				1.00	6.68
Eureka Springs	White	.36	T.	.16	T.						T.	2.34	3.60						.14					.96						.66		8.22
Fayetteville	do	T.	T.	.45				1.54			.39	1.38	1.63																	.59		5.98
Fort Smith	Arkansas	.27		.01			.03		.68		.35	.64	.64											.01						.01	.05	2.71
Fulton	Red																																
Hardy	White	1.25	2.30	.65	1.25	.01				.41	1.25	.62	.02		.51		.10		.32					.70						.87		10.29
Helena (2)	Mississippi	.28	.40	.16	.46	T.	.16	.06	.54	.30		.56		.68	.10				.66						T.							4.36
Hot Springs	Ouachita	.74	.03	.44	.37	.45						.03	1.30	.05			.15	.21	.31											.39	1.83	6.31
Huttig	do		.62	.95	.25	.15	.14	.04				.30	.01	.03	.78	.39	.04	1.37	1.24													6.31
Jonesboro	White	.40	.18	1.20	.28	.27		.07			.60	.25		.08																		3.33
Junction	Ouachita		T.	T.		2.20		.93						2.00				T.	1.60												T.	6.73
Lake Farm	Arkansas	.40		.60	.80	.21		.42																	.22							2.65
Lewisville	Red			.28	.87	.27	.01	.35					.42	.47	.31																.03	3.03
Little Rock	Arkansas	.45	T.	.80	.80	.01	T.	.10		T.	.01	.25	.37	.22			.21	.20							.02					T.	1.20	4.73
Lutherville	do	.17	.33	.07	.05			.23			.25	.20	.85	.07	.07									.07							.91	3.27
Malvern	Ouachita	.30	T.	.85	.40	.65	.20	.10	.12			.35		.90	T.			.40	.35													1.40	6.02
Mammoth Spring	White	.21	.07	1.28	1.63					.90	1.55	.14	.11				.04					1.48								2.75		10.16
Marked Tree	St. Francis	.25	.82	1.40		.05						1.02	.03	.02				.03														3.62
Mena	Ouachita																																
Mossville	White	.41	.21	.81			T.	T.			.31	.32	.84											.44						.31		3.65
Mount Nebo	Arkansas																																
Newport (1)	White	.40	.84			.23						.50		.40																			2.37
Ozark	Arkansas	.31	.08	.09							.40	.53	.29																	T.	1.92	3.62
Pine Bluff	do	.05	.46		.85		1.10		1.35						1.65			.26	.53												1.05	7.30
Pocahontas	White	.46	.08	2.60	.78	2.06				.14	1.30	.80			.13		.10							.27						.12		8.84
Pond	Arkansas	.31	.28	.10							.25	1.47	1.96											T.						1.43		5.80
Portland	Ouachita	.02	.98	1.23	.50	.02	.64	.10					.03		1.60			.65	1.25	.20											.03	7.25
Prescott	do		.02	.04	.06	.40	T.							T.																	.10	0.62
Rogers	Arkansas	.22	.20	.47				.05			.21	1.72	3.03											.05						.37		6.32
Springbank	Red	T.	.03		T.	T.	.11	T.	.32					.21		.16															T.	0.85
Stuttgart	Arkansas	.16	.04	.42	.91	1.89	.28	.58		.02	T.	.04	.38	1.32					.25						.03							.59	6.93
Subiaco	do	.25	.20		.21	.11			.10		T.	.72	.24											.34					T.	1.92	4.09
Texarkana	Red	.28	.15			.30						.10		.82	.06																	1.71
Warren	Ouachita	.16	.13	T.		1.64	.55	.20	.50					.64	.07			.14	.40	.12												4.55
Whitecliffs	Red		.18	.23		.05		.55						.08	.03				T.													1.12
Wiggs	Ouachita	.41	.14	.15	.11	.70	.13	.05		.03	.03	.20	.68	T.			.26	.33	.09											.72	1.40	5.43
Wynne	St. Francis	.35	.54	.04	.25	1.27	.15	.06	.05			.08		.28			.10	.25	1.35														4.78
Mississippi																																	
Anguilla	Yazoo	T.	.17	.14	.21	.67	T.	4.45	.20		T.	.12		.15			.10		.40							.72					1.90	9.23
Austin	do	.41	1.35	.16	.12	.60	.07	1.52	.19		.45	.04	.55	.41					.98					T.	.08	T.						6.93
Batesville	do	.24	.40	.78	.11	.10	.12	.31	.20	.92				.24	.58		.15	.17	.90						.28	.62							6.12
Big Creek	do																																
Byhalia	do	.17	T.		T.	.86	.19	.10	T.		.11		.14	2.02			.08		.07						1.70							5.44
Canton	Big Black	.01	.33	1.28	.62	.22	.09		.14			.38			.32		.20		.56					.02		.40					.71	5.28
Charleston	Yazoo		1.82	.23	1.25	.21	4.23	.83	.29				T.	.75	T.		T.		1.42						1.23						.35	12.61
Clarksdale	do	.58	.90	.66	.45	1.80	1.09	1.84	.06	.65		.48	.07	1.39	1.02				.47	.55					.11	.05					T.	12.17
Coffeeville	do	1.45	1.24	.71	.41	.79	3.48	.25	.22			.24		.28	.04		.48		.37						1.92						.02	11.90
Corinth	Mississippi	.55	.50	.24	.02	.58	.28	.48	.01			.22	.02	26	1.06	.28			.28	.02									.08			4.88
Crenshaw	Yazoo	1.21	.76	.35	.05	1.79	.58	1.78	1.29		.10	.26	.17	.11			.04		1.40					.55	.33							10.77
Denmark	do	1.12	1.04	.37	.39	1.10	3.10	.26	1.10					1.15			.05		.40													10.08
Duck Hill	do	.61	.45	.23		1.47	.85	.17	.20			T.	T.	2.29					.96				T.		.50	T.				T.	.60	8.33
Edwards	Big Black	.03	.79	.07	1.10	T.	.53	.43	.08		.03	T.	T.		T.	T.		.20	.53					T.	T.	T.					.09	3.89
Enid	Yazoo	.15	1.22		.56	.09	2.66	.33	1.01		.01		.11	.32	T.	.02	.52		.79					T.	1.20							8.99
Fayette	Mississippi	.31	.42	.78	.74	T.	.58	.25	T.			.28	T.	.15		T.		T.	1.23			.20									.05	4.99
Greenville	Yazoo	.02	.74	.55	1.75	.56	.24	.02		.04			T.		.35	.07		.50	.16					.21		T.					.05	5.26
Greenwood	do	.83		.25	.85	.38	1.65	.18	.06	.18		.40		.02	.70				.58						.04	.08	.02				.11	6.33
Grenada	do	.58	.28	.32	.14	T.	4.00	.08	T.				.18	.30			T.		1.52						1.33			T.			T.	8.73
Hernando	do	1.50	.15	.88	.80	.45	.30	.10	.25	.05		.45	.05	1.40	T.			.17	.12						.05	1.35						8.07
Hickory Flat	do	.76	.29	.60	.20	.75	.94	T.	.10		.39	.04	.25	.41					.29													5.22
Holly Springs	do	.66	.27	.14	.01	.05	1.02	.08	.03	.16		.38	T.	.02	.01			.04	.37													3.24
Kosciusko	Big Black	.45	.19	2.50		.20	.07	.50	.02			.07	.01		.15		.01	.02	.62	.01			.54			.10	.32				3.00	8.78
Lake Coromrant	Yazoo	1.42	.68	.12	.60	.43	.24	.01	.07			.02	.16	.35			.18		.02					.14	.12							4.56
Lula	do	.25	1.53	.08	.20	.38	.60	1.30	.38		.40	1.30	.76	.32					.62				.15		.05							8.32
Malone	do																																
Marks	do	.04	2.00	.35	.32	1.10	1.64	.55	1.99			.05	1.75	.27	.01	.07			.83					.51	.48							11.96
Natchez	Mississippi	.16		.39	.43	2.81	.15	.09	T.	T.			.02	.09	.13	.60		.04	.20	.13			.07				.06	1.10				6.47
New Albany	Yazoo	.40	.53	.95	.69	.88	1.30		.03			.07	.61	.12					.21						1.12							6.91
Pontotoc	do	1.50	2.00	T.	.13	.40	3.25	.78	.74		T.	.15	.25	.11			.23	.10	T.					T.								9.64
Port Gibson	Mississippi		.02	.31	.33	.53	T.	.23	.08	T.		.04	.07	T.	.03				.73	.07												2.44
Rosedale	Yazoo	1.25	.60	2.00	1.00	.75			.45						2.00				.03													8.08
Senatobia	do	.66	.21	.22	.04	.98	.53	.53	.24		1.47	.05	.12	.14	T.	T.	.02		.83					.28	1.06	T.						7.38
Shoccoe	Big Black	T.	.92	.45	.23	.25	.13	.12	.19		.02		.85	T.			.15		1.51						T.	.17					.60	5.59
Suffolk	Mississippi	.45	1.80	.17	.03	.26	.24	.03	.03	T.	.13	.20	1.04		.18			.28	1.28	.01		.01			T.	1.15					.49	7.80
Swan Lake	Yazoo		.25	1.68	.75		1.60	T.	.78		T.	.35	T.		.58	.65			.83	.10					T.	.32					.18	8.07
Tchula	do	.33	T.	.70	.10	.50	.45	.60	.10		T.			T.			T.	T.	1.30						T.	.75					2.00	6.83
University	do	.88	1.40	.14	.47	.68	3.45	.18	.82				.09	.44			.06		.68						2.32						.10	11.71
Utica	Mississippi			.80	1.50	.24	.67	1.01			.02	.02	.04		.80			.02	1.00												T.	6.12
Vicksburg	do	T.	1.04		.90	T.	.60	.25	.03					.03	.27			.15	1.79				T.			T.	T.				.21	5.27
Water Valley	Yazoo	.50	.98	.88	.05	.46	2.80	.67	.05	T.	T.	T.	.86	.20	.22	.20	T.	T.	1.20						1.20					T.		10.27
Woodville	Mississippi	2.11	1.21	1.21	.56	.28	.06	.20	.05	.01	.21	.26	.52	.09	.82			.08	.56						.44	.49						9.20
Yazoo City	Yazoo	.54		1.26		.16	T.	.06	.68				T.	.20	1.60		T.	T.	.50	T.							T.				.25	5.25
Louisiana.																																	
Abbeville	Coast	1.56	.39	.01	.95	.95	.05	.13	.01	.09	.92	.10	.41	.22	.08			.05	1.50				.80		.05	1.75	.01	.02	.20				9.95
Alexandria	Red			.35		.70	.15		.24	.15	.05	.08	.05	.07			.24		.46								.75					3.29
Amite	Coast	.30	1.30	.80	.15	.50	.40	T.	.20	.20	.20	1.15	T.	1.60	.25	T.		T.	T.	.75	.05	.15	.07			.70	.10					8.87
Baton Rouge	do	2.20	1.95	.53	.65	.28	.30	.64	.24				.10	.20	.13	.05		.03	.04	.75	.20	.05	.42	T.			.56	.11				9.43
Burnside	do	1.00	1.15	.03	.02	.03	T.	.73	.05	.40	.64	T.	1.25	.10		.22	.17	1.55		.03			.25		1.40	.62	T.					9.63
Burrwood	do	.84	1.92	.07							T.	1.46		.21		1.18	1.89	.49		.85	.20	1.28	.13	.16	.80							11.48
Cades	do	.98	.28		.25	1.51	.26	1.75		.86	.66	.21	.07	.09	.46	T.		.16	.86				.62									9.02
Calhoun	Ouachita		.31	.05	.30	T.		.04				T.	T.	.50			.03	.10	1.02											T.	T.	2.35
Cameron	Coast	5.12											2.05							1.07	T.		.46			1.17						9.87
Cheneyville	Red		.27	.15		.12	.85	.40	.24	.50			1.05	.08		.04	.68		4.00					.20			.25					8.83
Clinton	Coast	.22	2.62	.06	.44	.18	.38	.15	.31	.72	.90	.60	.83	.22	.11	T.	T.	.28	.27	.20						T.	1.45	T.				10.94
Collinston	Ouachita		*	*	*	2.00	.10	.25							.17	.11		.11	1.42							.25						4.41
Covington	Coast	.29	1.70	.42	.20	.63	.04	.07	.38	.01		T.	.01		T.		T.		.98	.84	.27	T.		.35	.01	.51	.23	.22					7.16
Dodson	Red	.09			.91	.51		.08				.73			.34	.04		.23	.65													3.58

TABLE 2.—*Daily precipitation for July, 1910. District No. 7*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Louisiana—Cont'd.																															
Donaldsonville	Coast	.40	.56	.35	.25	.10			.15	T.			.15	.55	T.	.12	T.		.16	.64	.12	.20	T.			.80	.35	.16	.10				5.16
Farmerville	Ouachita	.17	.43	.05	.38	.43			1.60				2.60			.19	1.58	1.75													T.	9.18
Ferriday	do		.19	.26	1.55	.05	.30	.05	.37			.05			.30				.52							.09					2.30	6.03
Franklin	Coast	.22	.06	.82	.88	.32		T.	T.	.50	.65	.36	1.55	.75	.62	.02	.35	.05	.05	1.01	.10		.41	.12		.02	1.15	.09	.78	.01			10.89
Grand Cane	Red			.10	.40		.32		.40																							1.22
Grand Coteau	Coast	T.	3.28		.02	2.15	.03	.70		.40	.60	.23	.30	T.	.45				.02	.80	.01		.30		.22	.12	.42						11.05
Hammond	do		2.00	.40		1.27	.23	.10	.16		.05				.56			1.57	1.08	2.28	.05	.40	.10		1.68	.35	.10	.10				12.48
Houma	do	2.00	1.30	2.80	2.01					1.10		.50	1.10		.30			1.00		2.00	.50	.70	.30			.20						15.81
Jena	Red																															
Jennings	Coast	2.57	.65	.30	.65	.35	1.07		1.07		.04	.27	.04	.17	.07	.14				.83	.14		.12	.28				.13				8.89
Lafayette	do	.10	1.31	.10	.05	.85	1.67		.60	.43	.08	.16	.10	2.31	.85	.47		T.		.93	.18		.15	.29		.10	.03	.04	.10				10.90
Lake Charles	do						1.22		.32			.34	3.56	.62		.56				2.62							1.52	1.13					11.89
Lakeside	do	2.00	1.75	.15	.10	1.30		.25		.30		.15	.45						15	3.90			1.50					.30					12.30
Lawrence	do		.06	.19	.33				.04			1.64	.24		.14		.09	.25	.73	.05	2.46	.03	.06	.20	.38	.10	.10	1.23		.05			8.37
Leesville	Sabine																															
Liberty Hill	Red			T.	3.45	.14	T.			.05	T.			.32	.50			.56	.52													5.54
Logansport	Sabine																															
Melville	Red	.18	.18	.48	.70	1.30	.59	.14	2.47	.25	.58		T.	.48	.28	T.				1.28	.24				T.	T.	.85						10.00
Minden	do	T.	T.		1.78	.25	1.02	.06	.25	.02					T.				.26													3.64
Monroe	Ouachita		.02	.06	.18	1.34	.04		.02			T.			.86	.22		.20	1.02	T.							.04					4.60
Morgan City	Coast	.26	1.03	1.87	6.00	.56						.76		.81						.29	.90	.51			.37			.78	.95	.34			15.43
Newellton	Mississippi	.14	1.47		.62		.43	.21			T.				.26			T.	.36			.21									T.	3.70
New Iberia	Coast	.17	.25	.40	.12	.17	T.	1.12		.12	.20	1.10	1.15	.17	.55	.10		T.	.32	.37	.12	T.	.75	.67	1.05	.65	.10	.17	T.				9.82
New Orleans (1)	do	.08	.62	.72	1.85		T.	T.		.16		.37	.22	.23	T.	T.		.22	.01	1.85	T.	T.	.01	.01	.02	.02	.01	T.					6.40
New Orleans (2)	do	.18	.38	.86	1.40		.09	.02		.06	.07	.53	.02	.08	.03			.16	.02	1.38	.24	.22	.05	.16		.06	.04	.55					6.80
New Orleans (3)	do	.05	.35	1.09	1.47	.02	.12	.25		.03		.08	1.83	1.22	.39	.01		.20		1.89		.12	.20		.02	.01	.48	.14					8.97
New Orleans (4)	do	.17	.54	.80	1.37		.07	.02		.05	.07	.46		.05	.02			.15		1.32	.21	.21	.04	.11	.02	.04	.03	.50					6.25
New Orleans (5)	do	.16	.86	.79	1.47			.04		.05	.18	.81	.04	.07	.07			.18		1.61	.02	.02	.02	.04		.04	.01	.01					6.49
New Orleans (6)	do	.07	.68	1.17	1.55					.12		.27	.14	.04				.17		1.69			.03	.03	.06	.02	.06						6.10
New Orleans (7)	do	.04	.38	.66	1.65		.27	.27		.17		.39	.83	.19		.04		.48		1.73		.09				.17		.29					7.65
New Orleans (8)	do	.07	.68	.76	1.52					.46		.11		.15	.10			.17		1.29			.20	.08		.05	.04						5.68
Opelousas	do	1.28	.94	.61	.06	1.45	2.25	.14	.23		.52	.03	.23	.31	.75	.04	T.			1.44	.04		.05	.06		.74	.13	.17	.41				11.88
Paradis	do																															
Plain Dealing	Red	.05			.18	.02	.30	.40							.03	.03																.02	1.12
Rayne	Coast	.38	1.00	.50	.30	2.25	1.50		T.		.15	.14		.20	T.	.10				2.35	.15			.35				.85					10.22
Reserve	do				.75	.91							14			.14			.24	.07	.42	.19			.13	.69	1.23	.58	1.75				7.24
Robeline	Red				.30	1.65			.74					.72	.32	.35	.15			T.													4.23
Ruston	Ouachita	.30	.90		.42	.08	T.	.14				.20			1.83	T.			1.00													4.87
St. Francisville	Mississippi			.42		.41	.90	.27	.50	.43	.82								T.		1.24	1.75				.30							7.04
Schriever	Coast	.35	.47	.25	2.40	.09	T.		.85		.65	1.11	T.	.72	.12	.13		T.	.34	.20	.38	.12	.09	.90	T.	.12	1.40	.08	.04				10.81
Sheridan	Pearl																															
Shreveport	Red		T.	.01	.67	.03		.08	T.					.64					.01												T.	1.44
Simmesport	do		1.51	.09		.22	.39	.01	.87	.27			1.27	.59	.25	.07				1.15	.01			.02		.11	.65					7.48
Southern Univ. Farm	Coast	.03	.80	.75	1.75		.15	.20		.05	.07	.55	.03	.01	.02	T.		.30	.01	.60	T.	.80	.10	T.	T.	.10	.18	.02					6.52
Sugartown	do		1.54		.22	.69		.62	.30		.24	.14	1.44	1.36		.68				2.16			.66			.89							10.94
Tallulah	Mississippi		.85		.12		.04	.04							.04	.01			1.42			.02	.05			.08						2.67
Walker	Coast																									1.29	.13	.20			.02	

TABLE 3.—*Maximum and minimum temperatures at selected stations, July, 1910. District No. 7, Lower Mississippi Valley.*

Date.	Colorado.						New Mexico.				Texas.				Kansas.										Oklahoma.			
	Lamar.		Leadville.		Pueblo.		Albert.		Cimarron.		Amarillo.		Paris.‡‡		Dodge City.		Ellinwood.		Iola.		Liberal.		Wichita.		Ardmore.‡‡		Bartlesville.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min	Max.	Min.	Max.	Min.
1...	89	58	71	36	86	57	87	61	83	54	87	58	89	69	83	62	96	62	93	65	87	58	91	65	97	66	92	68
2...	89	60	72	36	85	57	90	62	85	51	89	63	93	65	89	62	94	62	86	67	93	63	90	66	98	69	91	68
3...	95	50	71	39	92	56	96	59	89	51	95	64	91	67	89	66	90	65	86	63	93	64	88	64	94	67	92	60
4...	100	64	67	37	94	61	99	63	88	57	94	66	92	70	93	62	98	59	88	67	93	67	90	65	95	69	91	65
5...	101	73	64	36	91	60	99	66	86	55	97	68	93	70	96	66	100	65	87	64	101	66	94	66	102	65	91	66
6...	95	63	70	34	88	57	92	67	85	56	95	69	97	72	91	64	92	65	94	67	94	64	91	71	105	72	98	65
7...	99	69	70	40	92	60	95	63	87	53	93	62	89	71	95	64	100	64	95	65	100	66	100	67	89	65	99	62
8...	101	54	71	41	96	60	97	62	87	49	100	67	92	65	91	62	96	65	89	64	103	62	89	66	90	67	94	62
9...	99	60	72	42	74	58	84	61	76	49	92	59	93	67	83	65	89	69	94	69	93	58	98	71	93	70	99	69
10...	88	58	71	40	86	60	84	63	79	49	79	62	96	73	78	62	85	63	82	65	80	60	82	62	95	74	94	70
11...	96	66	69	39	85	59	91	58	79	45	86	63	95	74	90	60	94	61	85	65	94	62	90	62	80	65	89	68
12...	89	59	72	39	80	57	81	60	75	47	80	59	98	73	74	60	79	61	82	62	86	58	78	63	84	65	84	62
13...	100	61	73	39	93	53	88	59	81	47	86	64	95	71	85	62	87	60	87	58	90	61	88	63	90	66	92	63
14...	106	62	76	40	96	58	96	66	85	50	91	65	94	70	97	70	101	72	93	71	101	63	100	72	93	70	97	71
15...	103	59	77	45	95	60	100	64	88	54	95	67	98	72	95	69	95	73	98	74	107	67	97	75	97	71	100	73
16...	98	60	80	44	93	63	99	66	88	54	98	68	100	72	89	66	94	64	92	72	95	65	90	72	99	72	97	75
17...	102	58	75	43	93	64	98	66	88	55	95	66	103	75	93	65	99	64	98	68	98	69	96	72	102	74	101	75
18...	100	63	72	43	95	66	95	67	87	54	96	69	99	75	89	66	89	69	85	64	94	61	85	68	99	76	100	71
19...	106	64	83	41	99	62	98	65	89	54	92	65	90	69	86	61	87	58	83	56	93	61	82	61	90	72	86	59
20...	102	64	79	44	94	66	98	65	87	55	93	66	89	62	90	61	92	61	87	57	98	62	88	61	91	60	90	59
21...	102	67	74	44	90	64	94	67	88	54	95	66	93	63	93	66	96	66	91	65	98	68	91	68	96	62	93	66
22...	104	63	76	43	94	63	101	69	89	56	98	69	99	61	95	67	97	74	92	67	107	67	96	72	102	68	95	62
23...	109	68	76	47	97	63	102	69	90	53	97	73	99	69	103	74	107	71	103	74	105	76	104	78	101	77	104	73
24...	100	64	80	43	93	59	97	67	85	58	98	70	100	74	101	75	103	71	103	78	106	72	103	80	102	75	104	75
25...	106	63	82	43	97	63	97	72	89	58	97	69	101	75	102	73	106	69	103	76	105	65	104	78	103	76	107	73
26...	103	70	81	48	95	63	99	65	88	56	96	71	99	72	102	72	106	71	105	77	106	87	105	76	103	72	106	73
27...	108	74	78	49	98	62	99	64	90	54	97	66	98	73	101	72	107	75	102	75	104	82	103	77	100	72	106	72
28...	100	72	71	48	91	65	98	71	87	57	98	70	100	73	104	74	109	72	104	75	107	67	105	77	103	76	106	73
29...	96	65	69	41	79	61	94	67	81	58	99	70	101	74	89	69	86	70	100	75	100	67	98	77	105	77	110	74
30...	87	61	69	41	74	61	90	64	74	59	92	68	104	74	88	66	84	62	95	74	85	58	90	71	103	77	89	75
31...	100	63	70	41	84	61	89	64	81	52	85	63	94	75	86	70	94	69	93	70	84	64	90	72	99	74	93	73
Mns	99.1	63.1	73.4	41.5	90.3	60.6	94.4	64.6	85.0	53.4	93.1	65.8	96.0	70.5	91.6	66.2	95.2	66.2	92.7	68.0	96.7	65.2	93.3	69.6	96.8	70.4	96.5	68.4

Date.	Oklahoma.														Missouri.												Lynnville, Ky.		Jackson, Tenn.	
	Enid.‡‡		McAlester.		Mangum.‡‡		Muskogee.		Oklahoma.		Weatherford.‡‡		Woodward.		Carutheraville.		Ironton.‡‡		Lamar.‡‡		Olden.		Springfield.							
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	100	67	90	69	91	65	90	70	93	68	94	70	94	64	87	69	87	68	90	65	83	63	80	64	84	69	.....	.....		
2...	96	64	91	65	95	68	90	66	92	67	94	67	92	67	89	70	86	64	86	67	83	68	82	66	86	68	.....	.....		
3...	96	68	91	68	98	66	89	66	91	66	93	78	94	66	84	71	82	66	84	66	85	67	80	65	83	71	.....	.....		
4...	98	64	89	69	101	68	90	67	91	67	94	64	97	61	88	68	81	70	85	65	80	67	78	66	83	69	.....	.....		
5...	105	68	92	68	103	68	92	67	96	69	99	74	98	66	84	71	86	67	85	66	85	68	83	67	84	68	.....	.....		
6...	97	72	97	72	103	74	97	70	97	71	101	70	97	71	91	72	91	68	92	67	87	67	87	68	84	69	.....	.....		
7...	107	66	92	70	103	72	95	68	93	69	101	70	100	68	95	74	92	63	93	66	89	67	89	67	91	69	.....	.....		
8...	102	66	90	67	102	68	95	68	91	68	96	64	98	65	92	70	93	64	94	65	88	69	86	65	86	70	.....	.....		
9...	102	70	93	75	102	68	93	71	93	73	87	69	98	64	90	69	85	73	92	70	86	66	87	68	90	68	.....	.....		
10...	102	65	91	70	88	69	84	60	88	70	85	67	90	63	90	68	71	63	79	68	79	66	78	67	90	70	.....	.....		
11...	96	68	87	69	96	67	83	66	86	68	93	65	90	62	93	66	85	61	83	67	84	64	78	66	90	68	.....	.....		
12...	90	63	85	71	83	68	81	69	83	64	82	63	83	62	91	70	83	67	86	67	76	65	79	66	89	72	.....	.....		
13...	96	65	91	69	96	66	88	66	88	68	91	65	89	62	90	70	80	63	89	63	86	56	84	65	91	71	.....	.....		
14...	105	71	95	72	102	68	91	70	93	72	98	70	98	73	92	70	80	61	91	68	86	68	87	69	91	71	.....	.....		
15...	109	74	99	74	105	70	94	73	98	73	103	72	103	74	93	73	88	68	92	73	86	70	87	71	90	70	.....	.....		
16...	103	70	101	76	110	69	96	73	104	75	104	73	97	66	93	76	88	69	94	72	89	71	86	70	87	73	.....	.....		
17...	105	74	104	75	100	71	97	76	98	73	99	81	97	64	92	70	94	66	96	69	91	66	91	71	91	69	.....	.....		
18...	98	72	101	75	101	73	93	74	95	74	99	70	96	63	88	68	80	66	83	68	87	66	76	61	81	64	.....	.....		
19...	92	67	90	70	98	71	86	63	86	67	90	66	91	62	89	63	81	63	82	56	80	55	76	58	83	63	.....	.....		
20...	99	69	91	60	96	68	86	61	87	65	94	64	93	63	85	60	84	49	86	58	81	56	78	58	87	57	.....	.....		
21...	102	66	95	63	101	68	88	63	91	67	98	66	97	68	91	62	86	54	89	59	83	60	81	61	89	62	.....	.....		
22...	108	73	101	70	107	72	93	67	99	74	104	72	104	70	91	60	87	60	92	66	85	66	85	65	88	62	.....	.....		
23...	107	77	102	80	106	72	96	75	99	76	102	73	103	77	92	66	87	63	92	68	81	68	86	69	89	66	.....	.....		
24...	109	77	103	77	105	72	96	74	98	76	103	76	105	77	89	74	90	71	94	71	87	71	87	71	85	72	.....	.....		
25...	110	73	105	79	106	71	98	72	100	75	104	75	105	76	97	74	97	72	99	73	93	71	92	74	93	71	.....	.....		
26...	110	73	105	76	106	68	98	72	101	73	105	72	104	76	89	69	89	69	98	75	90	70	90	75	83	69	.....	.....		
27...	109	73	102	75	107	72	97	72	99	72	103	72	103	75	93	71	94	75	98	76	91	72	90	73	90	69	.....	.....		
28...	110	76	104	77	107	73	99	72	101	75	106	80	105	76	97	72	95	72	100	72	91	71	91	73	93	72	.....	.....		
29...	112	74	106	80	110	73	101	73	104	76	109	75	106	71	100	74	94	73	102	74	93	72	95	70	90	73	.....	.....		
30...	94	78	104	79	99	77	90	76	95	77	93	73	94	64	90	71	91	73	90	70	89	68	84	69	92	71	.....	.....		
31...	91	75	100	75	98	75	84	73	87	72	87	70	90	69	87	68	88	58	88	67	85	64	83	66	87	64	.....	.....		
Mns	101.9	70.3	96.7	72.1	100.8	70.0	91.9	69.5	94.2	71.0	97.7	70.5	97.1	68.1	90.7	69.3	86.9	65.8	90.5	67.6	85.8	66.4	84.4	67.2	87.7	68.4	.....	.....		

TABLE 3.—*Maximum and minimum temperatures at selected stations, July, 1910. District No. 7*—Continued.

Date.	Tennessee.				Arkansas.								Mississippi.			
	Memphis.		Union City.		Bentonville.		Corning.		Dardanelle. §§		El Dorado. §§		Fort Smith.		Little Rock.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	85	72	88	72	78	65	87	72	89	69	88	68	88	70	86	69
2	83	71	87	71	81	65	84	69	87	69	86	71	87	69	84	68
3	83	72	85	72	83	66	85	72	86	71	87	70	87	70	84	68
4	84	74	88	72	86	68	86	72	88	72	88	72	89	71	86	69
5	83	72	84	72	83	66	83	72	87	71	86	70	89	71	84	69
6	84	74	88	72	86	68	86	72	88	72	88	72	95	72	88	69
7	83	74	86	72	84	68	84	72	86	72	87	72	96	73	88	70
8	84	74	88	72	86	68	86	72	88	72	88	72	96	73	88	70
9	84	74	88	72	86	68	86	72	88	72	88	72	96	73	88	70
10	83	74	88	72	86	68	86	72	88	72	88	72	96	73	88	70
11	86	74	88	72	86	68	86	72	88	72	88	72	96	73	88	70
12	86	74	88	72	86	68	86	72	88	72	88	72	96	73	88	70
13	86	74	88	72	86	68	86	72	88	72	88	72	96	73	88	70
14	86	74	88	72	86	68	86	72	88	72	88	72	96	73	88	70
15	86	74	88	72	86	68	86	72	88	72	88	72	96	73	88	70
16	86	74	88	72	86	68	86	72	88	72	88	72	96	73	88	70
17	86	74	88	72	86	68	86	72	88	72	88	72	96	73	88	70
18	86	74	88	72	86	68	86	72	88	72	88	72	96	73	88	70
19	86	74	88	72	86	68	86	72	88	72	88	72	96	73	88	70
20	86	74	88	72	86	68	86	72	88	72	88	72	96	73	88	70
21	86	74	88	72	86	68	86	72	88	72	88	72	96	73	88	70
22	86	74	88	72	86	68	86	72	88	72	88	72	96	73	88	70
23	86	74	88	72	86	68	86	72	88	72	88	72	96	73	88	70
24	86	74	88	72	86	68	86	72	88	72	88	72	96	73	88	70
25	86	74	88	72	86	68	86	72	88	72	88	72	96	73	88	70
26	86	74	88	72	86	68	86	72	88	72	88	72	96	73	88	70
27	86	74	88	72	86	68	86	72	88	72	88	72	96	73	88	70
28	86	74	88	72	86	68	86	72	88	72	88	72	96	73	88	70
29	86	74	88	72	86	68	86	72	88	72	88	72	96	73	88	70
30	86	74	88	72	86	68	86	72	88	72	88	72	96	73	88	70
31	86	74	88	72	86	68	86	72	88	72	88	72	96	73	88	70
Mean	85.9	72.0	90.6	69.5	86.3	66.7	87.3	70.3	89.6	69.7	89.7	71.0	91.6	71.4	86.9	71.3

Date.	Mississippi.															
	Kosciusko. §§		Natchez. §§		Vicksburg.		Alexandria. §§		Baton Rouge. §§		Covington. §§		Lafayette. §§		Lake Charles. §§	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	85	67	91	72	86	68	90	70	84	74	89	71	86	73	96	72
2	86	68	90	72	84	70	93	71	86	74	86	73	86	74	96	72
3	84	71	83	72	83	71	92	72	86	74	86	74	84	74	94	72
4	83	72	86	72	83	72	93	72	86	74	86	74	83	74	94	72
5	84	72	86	72	84	72	93	72	86	74	86	74	84	74	94	72
6	84	72	86	72	84	72	93	72	86	74	86	74	84	74	94	72
7	84	72	86	72	84	72	93	72	86	74	86	74	84	74	94	72
8	84	72	86	72	84	72	93	72	86	74	86	74	84	74	94	72
9	84	72	86	72	84	72	93	72	86	74	86	74	84	74	94	72
10	84	72	86	72	84	72	93	72	86	74	86	74	84	74	94	72
11	84	72	86	72	84	72	93	72	86	74	86	74	84	74	94	72
12	84	72	86	72	84	72	93	72	86	74	86	74	84	74	94	72
13	84	72	86	72	84	72	93	72	86	74	86	74	84	74	94	72
14	84	72	86	72	84	72	93	72	86	74	86	74	84	74	94	72
15	84	72	86	72	84	72	93	72	86	74	86	74	84	74	94	72
16	84	72	86	72	84	72	93	72	86	74	86	74	84	74	94	72
17	84	72	86	72	84	72	93	72	86	74	86	74	84	74	94	72
18	84	72	86	72	84	72	93	72	86	74	86	74	84	74	94	72
19	84	72	86	72	84	72	93	72	86	74	86	74	84	74	94	72
20	84	72	86	72	84	72	93	72	86	74	86	74	84	74	94	72
21	84	72	86	72	84	72	93	72	86	74	86	74	84	74	94	72
22	84	72	86	72	84	72	93	72	86	74	86	74	84	74	94	72
23	84	72	86	72	84	72	93	72	86	74	86	74	84	74	94	72
24	84	72	86	72	84	72	93	72	86	74	86	74	84	74	94	72
25	84	72	86	72	84	72	93	72	86	74	86	74	84	74	94	72
26	84	72	86	72	84	72	93	72	86	74	86	74	84	74	94	72
27	84	72	86	72	84	72	93	72	86	74	86	74	84	74	94	72
28	84	72	86	72	84	72	93	72	86	74	86	74	84	74	94	72
29	84	72	86	72	84	72	93	72	86	74	86	74	84	74	94	72
30	84	72	86	72	84	72	93	72	86	74	86	74	84	74	94	72
31	84	72	86	72	84	72	93	72	86	74	86	74	84	74	94	72
Mean	84.1	72.0	86.0	72.0	84.0	72.0	93.0	72.0	86.0	74.0	86.0	74.0	84.0	74.0	94.0	72.0

Date.	Louisiana.															
	Monroe. §§		New Orleans.		Robeline. §§		Schriever. §§		Shreveport.							
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.						
1	96	69	90	76	94	70	85	73	88	72						
2	96	70	90	76	94	70	86	73	90	72						
3	96	71	90	76	94	70	86	73	90	72						
4	96	71	90	76	94	70	86	73	90	72						
5	96	71	90	76	94	70	86	73	90	72						
6	96	71	90	76	94	70	86	73	90	72						
7	96	71	90	76	94	70	86	73	90	72						
8	96	71	90	76	94	70	86	73	90	72						
9	96	71	90	76	94	70	86	73	90	72						
10	96	71	90	76	94	70	86	73	90	72						
11	96	71	90	76	94	70	86	73	90	72						
12	96	71	90	76	94	70	86	73	90	72						
13	96	71	90	76	94	70	86	73	90	72						
14	96	71	90	76	94	70	86	73	90	72						
15	96	71	90	76	94	70	86	73	90	72						
16	96	71	90	76	94	70	86	73	90	72						
17	96	71	90	76	94	70	86	73	90	72						
18	96	71	90	76	94	70	86	73	90	72						
19	96	71	90	76	94	70	86	73	90	72						
20	96	71	90	76	94	70	86	73	90	72						
21	96	71	90	76	94	70	86	73	90	72						
22	96	71	90	76	94	70	86	73	90	72						
23	96	71	90	76	94	70	86	73	90	72						
24	96	71	90	76	94	70	86	73	90	72						
25	96	71	90	76	94	70	86	73	90	72						
26	96	71	90	76	94	70	86	73	90	72						
27	96	71	90	76	94	70	86	73	90	72						
28	96	71	90	76	94	70	86	73	90	72						
29	96	71	90	76	94	70	86	73	90	72						
30	96	71	90	76	94	70	86	73	90	72						
31	96	71	90	76	94	70	86	73	90	72						
Mean	96.0	71.0	90.0	76.0	94.0	70.0	86.0	73.0	90.0	72.0						

Climatological Data for July, 1910.
DISTRICT No. 8, TEXAS AND RIO GRANDE VALLEY.

BERNARD BUNNEMEYER, District Editor.

GENERAL SUMMARY.

The month was marked by unusually warm and dry weather. There was only a comparatively small area in the southeastern portion of the district, centering around Beaumont, which had a decided excess of precipitation and a corresponding deficiency of temperature. Heavy precipitation occurred also, locally, in the extreme upper Trinity River Valley and in some of the mountain districts of New Mexico, but elsewhere the rainfall was conspicuously deficient. From an agricultural point of view the weather conditions during July became exceedingly discouraging, especially as the month had been preceded by unusually dry weather during June. Most of the precipitation occurred after the 10th in Colorado and New Mexico, and before the 20th in Texas.

The greatest monthly precipitation in Colorado was 2.82 inches at Platoro; in New Mexico, 5.63 inches at Aspen Grove Ranch; and in Texas, 10.29 inches at Beaumont. There was no rain at five stations in Texas, and at six other stations in Texas and at two in New Mexico the monthly amounts were less than 0.10 inch. The least monthly amount in Colorado was 0.12 inch at Garnett. Excessive precipitation of 2.50 inches or more in 24 consecutive hours occurred at the following stations in Texas: Beaumont, 4.38; Gainesville, 5.15; Galveston, 2.93; and Liberty, 2.84. There was none in New Mexico or Colorado. The number of days with 0.01 inch or more of precipitation averaged eight in Colorado, seven in New Mexico, and three in Texas.

The percentage of sunshine was large in Texas and averaged about normal in the remaining portions of the district. Destructive thunderstorms were quite numerous in New Mexico after the 10th, and a number of deaths by lightning and some loss of property occurred. These storms were of less frequency in Texas.

TEMPERATURE.

The mean temperature averaged 2.6° above the normal in Colorado, and 2.3° above in New Mexico and Texas; the excess of temperature being greatest in the middle portion of the district. In southeastern Texas and in some localities along the Gulf coast the temperature averaged somewhat less than normal. There was but little change in temperature from day to day, and the extremes were moderate on account of an absence of abnormally cool weather. The daily range averaged about 9° on the upper Texas coast and about 40° in the extreme northwestern portion of the district.

The highest and lowest temperatures reported were: In Colorado, 97° at Saguache on the 20th and 27th, and 33° at Manassa on the 15th; in New Mexico, 109° at San Rafael on the 20th, and 31° at Hopewell on the 2d; and in Texas, 119° at Tilden on the 2d, and 59° at Plainview on the 1st, at Rossville on the 5th, at Marshall on the 20th, and at Flint on the 21st. The local monthly means ranged from 63.1° to 68.2° in Colorado; from 58.2° to 84.4° in New Mexico; and from 77.2° to 94.1° in Texas. In many portions of western Texas the warm weather broke all previous records.

PRECIPITATION.

There was a general deficiency of precipitation over the Rio Grande watershed, except over a few short stretches north of El Paso. The deficiency was most marked over the Texas end, where it averaged 1.64 inch. In New Mexico the deficiency averaged 0.73 inch. The average rainfall for the watershed was 1.20 inch. The Rio Pecos watershed received slightly more moisture than that of the Rio Grande, the average being 1.40 inch, or over 1.00 inch less than the normal. Notwithstanding these large deficiencies both watersheds received considerably more precipitation than during the preceding month. The heaviest showers occurred in their upper portions.

There was a marked deficiency of precipitation over all Texas watersheds, the shortages ranging from 0.81 inch for the coastal plains to 2.52 inches for the Guadalupe watershed. A considerable excess occurred, however, in southeastern Texas, including a limited area of the coastal plains and the lower portions of the Trinity, Neches, and Sabine watersheds. There was also an excess in one or two localities in the extreme upper Trinity watershed. The following are the average monthly amounts in inches for the various watersheds: Nueces, 0.76; San Antonio, 1.02; Guadalupe, 0.79; Lavaca, 1.66; Colorado, 0.81; Brazos, 1.12; Trinity, 2.06; Neches, 3.09; Sabine, 0.86; and coastal plains, 2.12. Compared with conditions for the preceding month there was a considerable decrease in precipitation, except over the San Antonio and Lavaca watersheds which showed an increase.

RIVER CONDITIONS.

The rivers of the districts were generally below normal and lower than during the preceding month. The discharge of some of the rivers is the lowest on record for July. The Rio Grande was unusually low at the railroad bridge west of Santa Fe and water disappeared entirely from its bed a short distance below Bernalillo, N. Mex. At the Leasburg Project, N. Mex., the flow of water in the river became too small for irrigation purposes. The lower Rio Grande, which is not dependent upon the upper portion for its water supply as it is fed by perennial streams, was also abnormally low during the entire month, but it continued to furnish sufficient water for irrigating and stock purposes. The condition of the Rio Pecos was as discouraging as that of the Rio Grande. At the Carlsbad Project, N. Mex., the river gage showed only 25 second-feet in the river. There was, however, not much demand for water for irrigation as a large acreage of alfalfa was grown for seed, and the delivery of water was suspended on the 19th. At Barstow, Tex., the stage of the river was below the zero of the gage, and the supply of water for irrigating purposes was very scanty. At the Hondo Project, N. Mex., a small supply of water was available at intervals for irrigation, but there was no water in the river bed at the close of the month.

The flow of the Guadalupe, Colorado and Brazos rivers was smaller than ever before recorded in July. Irrigating plants, obtaining their water from the lower Colorado River, were compelled to suspend operation, and the rice crop suffered accordingly. It has been estimated that the losses would aggregate $800,000. Plans are being advocated for conserving the water of the river for use during unfavorable seasons, and it is probable that something will be done in the matter. Abnormally low stages obtained also in the Trinity, Neches, and Sabine rivers.

MISCELLANEOUS.

Local storms.—During a violent thunderstorm, which occurred at Gainesville, Tex., on the 11th, several houses and barns were struck by lightning, and five mules were instantly killed. The storm was accompanied by a torrential rain which caused washouts near the city. The precipitation amounted to 5.15 inches in a few hours.

A destructive windstorm on the 18th at Italy, Tex., demolished one residence and two barns, and damaged several other buildings. One person was killed by the débris and another seriously injured. A similar storm on the same day at Lovelace, Tex., wrecked one dwelling and damaged several others. Three persons were seriously injured.

During a severe thunderstorm on the 18th at Taylor, Tex., a large barn was struck by lightning and burned. Three blooded horses, four mules, and nine hogs perished in the flames, and much food stuff and other property was destroyed. Two persons were struck by lightning, but not killed.

Cloudbursts.—A cloudburst occurred near Bernalillo, N. Mex., on the 12th, which destroyed about 100 feet of railroad trestle spanning the Rio Grande, delayed trains and caused other damage. On the same day another cloudburst occurred in the Guadalupe Canyon, N. Mex., and sent a tremendous volume of water down the Valley of the Jemez River. Large pine trees were swept away as if they had been straws, and a number of houses in the Villa de Canyon were destroyed. Crops were badly damaged.

On the 30th a cloudburst occurred near Elota, N. Mex., and a large volume of water rushed down the Tonque Arroyo, carrying with it a considerable amount of trestle and tracks. The embankments of the railway were badly damaged and traffic was interrupted.

Hailstorm.—A severe hailstorm occurred at Jemez Springs, N. Mex., on the 12th, which was very destructive to vegetation and foliage.

Reclamation work in Texas.—The maps of the various levee districts that have been surveyed so far have been completed and are now in the hands of the engravers. The maps were made in the office of the United States Geological Survey and will show the exact location of each district where it is proposed to build levees and reclaim lands. The State Levee and Drainage commissioner will make his report to the governor of the State and the matter will then be submitted to the next legislature for further action. The preliminary work of surveying was done by officials of the United States Geological Survey.

Drainage district.—It is contemplated to create a drainage district in Galveston County, Tex., to be known as Drainage District No. 2. The land proposed for the new district lies between Dickinson and Texas City Junction and embraces about 15,000 acres. It is thought that a bond issue of about $45,000 will cover the cost of the project.

TABLE 1.—*Climatological data for July, 1910. District No. 8, Texas and Rio Grande Valley.*

Stations.	Counties	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Date.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Colorado.																				
Bianca	Costilla	8,403	1	64.4	.....	89	17†	39	11	43	2.29	.....	0.53	0.0	9	4	27	0	sw.	L. C. Audrain.
Cumbres	Conejos	10,015	3								2.00		0.79	0.0	7	30	1	0	sw.	Ida M. Lively.
Garnett	Costilla	7,576	17	63.3	+ 1.7	90	20	35	1	47	0.12	− 1.07	0.10	0.0	2	18	6	7	sw.	Chas. Speiser.
Hermit	Hinsdale	9,843									2.40		0.67	0.0	10	7	14	10	.....	Marion Mason.
La Veta Pass	Costilla	9,000																	.....	Norvin R. Lively.
Manassa	Conejos	7,700	4	63.1	.....	88[a]	20	33[a]	15	52[a]	1.35	.....	0.80	0.0	5	5[a]	18[a]	7[a]	se.	J. B. Chapman.
Platoro	...do	9,675	2								2.82		0.71	0.0	17	14	13	4	w.	Walter R. Hook.
Saguache	Saguache	7,740	18	68.2	+ 4.0	97	20†	40	2	51	1.30	− 0.18	0.85	0.0	4	13	9	9	w.	Eugene Williams.
San Luis	Costilla	7,794	19	64.6	+ 2.2	89	20	37	17	51	1.66	− 0.67	0.87	0.0	11	10	19	2	sw.	P. B. Albright.
Wagon Wheel Gap	Mineral	8,434	11																	S. Eland.
New Mexico.																				
Agricultural College	Dona Ana	3,863	44	82.5	+ 1.7	104	8†	58	2	44	1.10	− 0.74	0.60	0.0	4	2	29	0	.....	New Mexico Agri. College.
Alamogordo (near)	Otero	4,338	9	80.2	.....	100	5†	60	10†	39	0.99	− 0.50	0.59	0.0	3	4	27	0	sw.	Geo. C. Bemis.
Alamogordo	...do	4,320	1								0.04		0.04	0.0	1					El Paso & Southwest. R. R.
Albuquerque	Bernalillo	5,000	34								1.88	+ 0.71	1.40	0.0	5	12	18	1	e.	Pitt Ross, C. E.
Ancho	Lincoln	6,112	1								0.95		0.45	0.0	4	11	2	18	.....	El Paso & Southwest. R. R.
Artesia	Eddy	3,350	2	82.2	.....	106	5	50	17	45	0.03	.....	0.03	0.0	1	27	4	0	se.	Will Benson.
Aspen Grove Ranch	Rio Arriba	9,000	1								5.63		2.09	0.0	12	2	27	2	.....	Junius D. Maupin.
Bateman's Ranch	...do	8,900	1								1.74		0.46	0.0	6	10	21	0	w.	John W. Bateman.
Bluewater	Valencia	6,732	8	70.2	.....	97	22	42	2	49	2.10	.....	0.80	0.0	9	7	24	0	s.	Bluewater Development Co.
Bluewater Reservoir	...do	9,000	1																	Do.
Boaz	Chaves	4,154	1	80.2	.....	104	4	56	9	43	0.63	.....	0.28	0.0	4	8	23	0	s.	D. C. Savage.
Capitan	Lincoln	6,348	1								2.24		0.66	0.0	7	1	23	7	s.	El Paso & Southwest. R. R.
Carlsbad	Eddy	3,120	15	84.0	+ 3.7	108	4†	63	17	44	0.91	− 2.25	0.45	0.0	3	22	7	2	s.	U. S. Reclamation Service.
Carrizozo	Lincoln	5,429	2								0.28		0.20	0.0	5	13	18	0	e.	El Paso & Southwest. R. R.
Carson Park	Taos	7,650									1.82		0.60	0.0	6				.....	Lester S. Myers.
Chama	Rio Arriba	7,851	11	65.6	+ 0.1	94	19	41	2†	44	2.30	+ 0.09	1.90	0.0	2	15	16	0	sw.	Frank C. Johnson.
Cloudcroft	Otero	8,650	7	61.9	.....	82	8	43	10†	33	2.71	.....	1.00	0.0	8	9	16	6	sw.	El Paso & Southwest. R. R.
Corona	Lincoln	6,656	1								1.40		0.85	0.0	3				s.	Do.
Coyote	...do	5,800	1								0.86		0.32	0.0	9	12	19	0	se.	Do.
Cundiyo	Santa Fe	6,889	1								0.25		0.11	0.0	4	9	13	9	w.	Teofilo Vijil.
Demonstration Farm	San Miguel	6,800	1								0.97		0.60	0.0	4				.....	Erb & Westerman.
Duran	Torrance	6,272	1								2.36		2.00	0.0	3	2	27	2	.....	El Paso & Southwest. R. R.
Elk (near)	Chaves	7,400	11																	Boyd Williams.
Escondido	Otero	4,014	1			103	9				0.24		0.09	0.0	4	5	15	11	se.	El Paso & Southwest. R. R.
Espanola	Rio Arriba	5,590	12	74.8	+ 2.7	99[b]	20†	48[b]	2†	47[b]	0.15	− 1.27	0.15	0.0	1	22	6	3	w.	Mrs. E. F. McBride.
Estancia	Torrance	6,140	5	72.0		94	4†	49	21	43	0.44		0.16	0.0	4	15	10	6	e.	New Mex. Cent. R./R.
Fort Stanton	Lincoln	6,231	32	71.5	+ 2.3	97	8	50	5†	44	1.57	− 1.36	0.63	0.0	8	12	12	7	w.	U. S. Sanitarium.
Fort Sumner	Guadalupe	3,960	2	80.2		105	4†	56	3	43	0.48		0.25	0.0	5	22	8	1	se.	F. A. Manzanares.
Gallinas	Lincoln	6,635	1								0.62		0.50	0.0	2	18	7	6	e.	El Paso & Southwest. R. R.
Gallinas Planting Station	San Miguel	7,500	3	65.4		87	23	42	11	39	5.59		1.01	0.0	15	2	29	0	nw.	U. S. Forest Service.
Harvey's Upper Ranch	...do	9,400	1								3.87		0.81	0.0	14	7	23	1	se.	Simon B. Warner.
Hillsboro	Sierra	5,224	13																	Dr. Frank I. Givens.
Hodges	Taos	8,484	1																	A. Porter.
Hondo Reservoir	Chaves	3,904	1	80.9	.....	105	4	60[b]	7†	44[b]	0.79	.....	0.64	0.0	3	17	13	1	se.	U. S. Reclamation Service.
Hope	Eddy	4,000	3																	A. W. Board.
Hopewell	Rio Arriba	9,500	1	58.2	.....	84	19	31	2	43	3.02	.....	1.25	0.0	11	2	26	3	sw.	John T. Blanton.
Jemez Springs	Sandoval	6,100									3.34		2.00	0.0	16	7	20	4	sw.	Linus L. Shields.
Knowles (near)	Eddy	4,300		80.6		102	4	61	13	40	0.45		0.20	0.0	3	18	12	1	se.	J. W. Mosley.
Laguna	Valencia	5,840	5	77.2		100	7†	50	6†	46	0.87		0.65	0.0	2	17	4	10	.....	Gus Weiss.
Lagunita	Guadalupe	4,500	5	77.6		101	6	56	1†	39	0.65		0.23	0.0	4	16	9	6	se.	P. A. Turnbull.
Lake Valley	Sierra	5,412	5								1.88		0.55	0.0	10	5	26	0	sw.	Wm. P. Keil.
Las Vegas	San Miguel	6,384	23	71.6	+ 2.4	97	8†	47	3†	47	2.48	− 1.52	1.40	0.0	10	17	14	0	w.	Dr. Wm. Curtiss Bailey.
Liston	Chaves	5,000									0.96		0.50	0.0	7	7	24	0	s.	H. G. Liston.
Los Lunas (near)	Valencia	4,900	20																	Richard Pohl.
Los Tanos	Guadalupe	4,919	1								1.38		0.57	0.0	5	18	12	1	s.	El Paso & Southwest. R. R.
Magdalena	Socorro	6,557	5	73.2		94	4†	46	11	43	2.11		0.90	0.0	8	6	25	0	sw.	Wm. Pender.
Mineral Hill	San Miguel	7,050	5								3.01		0.94	0.0	6	0	30	1	sw.	W. M. Nelson.
Monterey	Otero	4,436	1								0.30		0.20	0.0	2	1	29	1	sw.	El Paso & Southwest. R. R.
Mountainair	Torrance	6,547	8	73.4		99	8	47	12	41	2.24		0.89	0.0	9	18	13	0	sw.	Mrs. John W. Corbett.
Newman	Otero	3,989	1			104	3	64	17	....	0.29		0.20	0.0	2	18	11	2	e.	El Paso & Southwest. R. R.
Noria	Dona Ana	4,114	1								0.81		0.60	0.0	4	16	6	9	e.	Do.
Orange	Otero	5,000	1	84.4	.....	108[a]	4	60[a]	10	37[a]	0.25	.....	0.20	0.0	2	3	25	3	e.	Jas. Brownfield, jr.
Orogrande	...do	4,171	1								0.30		0.23	0.0	2	7	21	3	w.	El Paso & Southwest. R. R.
Oscura (near)	Lincoln	5,016	1								0.54		0.43	0.0	7	12	19	0	s.	Eugene F. Jones.
Otis	Eddy	3,100	1								0.93		0.63	0.0	5	26	5	0	se.	A. M. Hove.
Otto	Santa Fe	6,200	1								1.74		0.73	0.0	7				.....	W. K. Davis.
Pastura	Guadalupe	5,285	1	80.9		107	17†	55	31	45	3.27		1.50	0.0	8	11	18	2	ne.	El Paso & Southwest. R. R.
Picacho (near)	Lincoln	5,000																		P. D. Southworth.
Plainview (near)	Chaves	4,300																		L. P. Adair.
Red River Canyon	Taos	8,956	2	60.2		87	27	33	12	50	0.90		0.50	0.0	2	12	19	0	e.	Mrs. L. R. Penn.
Rincon	Dona Ana	4,050	12	82.7	+ 3.3	105	3†	58	11†	43	0.16	− 1.64	0.16	0.0	1	5	11	15	s.	Chas. H. Raitt.
Rio Grande Dam	Sierra	4,265	12	82.2	+ 3.9	103	8†	58	2	44	1.36	− 0.72	0.74	0.0	4	7	21	3	ne.	U. S. Reclamation Service.
Rosedale	Socorro	6,910	5	71.8		91	8	49	11	33	1.03		0.49	0.0	12	14	14	3	w.	W. H. Martin.
Roswell	Chaves	3,578	12	80.6	+ 1.7	102	5	60	4	41	0.57	− 2.89	0.27	0.0	7	13	18	0	se.	U. S. Weather Bureau.
San Marcial	Socorro	4,439	14																	Atch., Topeka & S. F. R. R.
San Rafael	Valencia	6,509	6	75.6		100	20	43	2	53	1.23		0.34	0.0	6	12	11	8	w.	Dr. Chas. M. Grover.
Santa Fe	Santa Fe	7,013	37	70.2	+ 1.5	88	22	47	2	37	0.82	− 1.89	0.26	0.0	8	11	19	1	ne.	U. S. Weather Bureau.
Santa Fe Canyon	...do	8,000	1								1.70		0.40	0.0	8	6	4	21	e.	Candelario Martinez.
Santa Rosa	Guadalupe	4,624	10	81.0		103	22†	58	3†	43	0.63	− 2.03	0.19	0.0	7	5	26	0	s.	John R. Chapman.
Socorro	Socorro	4,600	18	79.1	+ 1.5	108	8	52	30	50	0.80	− 0.87	0.28	0.0	10	20	11	0	ne.	J. J. Leeson.
Stanley	Santa Fe	6,317	1	72.6	.....	95	4†	48	2	46	1.11	.....	0.46	0.0	7	17	13	1	e.	Henry Winan.
Strauss	Dona Ana	4,080	11								0.70	− 0.70	0.27	0.0	4	9	11	11	e.	Southern Pacific R. R.
Swastika Ranch	Valencia	6,400	1								1.55		0.37	0.0	7	12	10	9	w.	Swastika S. & L. Co.
Taft	Guadalupe	5,000									0.30		0.08	0.0	6	12	19	0	se.	A. J. Wilmeth.
Tajique (near)	Torrance	6,900									1.87		0.35	0.0	12	11	19	1	.....	U. S. Forest Service.
Taos	Taos	6,983	12	70.8	+ 1.9	95	19	44	11	40	1.24	− 0.52	0.50	0.0	5	15	16	0	s.	Alexander Gusdorf.
Taos Canyon	...do	8,959	1								4.37		0.96	0.0	14					Leocadio Martinez, jr.
Tecolote	Lincoln	6,539	1								0.15		0.08	0.0	2	23	6	2	w.	El Paso & Southwest. R. R.
Three Rivers	Otero	4,559	1								0.09		0.04	0.0	3	14	4	13	.....	Do.
Tijeras Canyon	Bernalillo	6,214	1								1.89		0.44	0.0	11	15	16	0	se.	U. S. Forest Service.
Torrance	Torrance	6,433	1								0.52		0.16	0.0	4	8	23	0	se.	El Paso & Southwest. R. R.
Tres Piedras	Taos	8,076	5	66.2		93	18	40	1†	45	1.55		0.40	0.0	6	3	27	1	sw.	Edwin B. Seward.
Truchas	Rio Arriba	7,935	1	64.7		88	25†	39	29	40	2.10		0.70	0.0	6	0	31	0	.....	Ignacio Cordova.
Tularosa	Otero	4,436	....	80.0	.....	103	8	60	2†	40	0.41	.....	0.29	0.0	4	8	23	0	sw.	Irby L. Fairless.
Vaughn	Guadalupe	5,952	1								0.50		0.20	0.0	3				.....	El Paso & Southwest. R. R.
Virzylvia	Taos	7,500				93	20	58	7	....	0.94		0.27	0.0	9	16	10	5	s.	Dr. I. N. Woodman.

TABLE 1.—*Climatological data for July, 1910. District No. 8*—Continued.

Stations	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	
New Mexico—Cont'd.																			
Winsors	San Miguel	8,200	12	61.8	+ 3.0	86	9†	33	1	49	3.22	− 1.01	0.68	0.0	13	11	10	10	w.	Henry D. Winsor.
Texas.																			
Abilene	Taylor	1,738	25	86.4	+ 4.2	104	30	67	1	30	0.32	− 2.08	0.24	0.0	4	18	12	1	s.	U. S. Weather Bureau.
Albany	Shackelford	1,429	16	88.3	+ 6.9	107	30	65	5	35	T.	− 2.95	T.	0.0	0	26	5	0	.....	N. L. Bartholomew.
Ananuac‖	Chambers	23	1	.....	.....	.....	.....	.....	.....	.....	6.67	.....	1.46	0.0	13	.....	.....	.....	.....	B. H. Collins.
Austin	Travis	393	54	85.4	+ 1.2	101	18	72	15	27	0.12	− 2.33	0.07	0.0	3	15	14	2	sw.	A. Deussen.
Ballinger	Runnels	1,637	15	85.8	+ 4.2	106	18	65	19	36	0.60	− 2.44	0.60	0.0	1	23	8	0	s.	E. M. Eubank.
Barstow	Ward	2,573	3	.....	.....	.....	.....	.....	.....	.....	1.46	.....	0.90	0.0	3	.....	.....	.....	.....	W. H. Denis.
Bay City	Matagorda	53	.....	.....	.....	.....	.....	.....	.....	.....	1.92	.....	1.02	0.0	4	15	11	5	s.	E. C. Quereau.
Beaumont	Jefferson	29	13	82.0	.....	95	28†	67	3†	24	10.29	+ 5.53	4.38	0.0	11	9	0	22	se.	John Bender.
Beeville	Bee	225	14	83.8	− 1.3	101	2	69	5†	28	1.07	− 2.77	0.45	0.0	5	19	10	2	se.	L. E. Dickey.
Big Springs	Howard	2,396	12	86.6	.....	107	30	62	2	36	1.24	− 1.75	1.00	0.0	3	17	14	0	se.	B. Reagan.
Blanco	Blanco	1,350	14	84.2	+ 2.7	105	18	65	20	31	1.04	− 2.49	0.40	0.0	5	22	9	0	s.	R. C. Crist.
Boerne	Kendall	1,412	18	84.4	+ 2.8	104	3†	66	30	36	0.84	− 2.51	0.50	0.0	3	18	8	5	se.	F. W. Schweppe.
Booth	Fort Bend	81	9	.....	.....	.....	.....	.....	.....	.....	3.73	.....	0.96	0.0	12	24	0	7	se.	T. R. Booth.
Boquillas	Brewster	.....	.....	93.4	.....	113	4	71	2	39	0.00	.....	0.00	0.0	0	.....	.....	.....	.....	J. O. Langford.
Bowie	Montague	1,113	16	86.4	+ 4.3	111	30	66	13	34	1.71	− 0.68	1.47	0.0	3	18	9	4	n.	Craig Anderson
Brazoria	Brazoria	25	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mrs. M. A. Stevens.
Brazos	Palo Pinto	801	1	.....	.....	.....	.....	.....	.....	.....	0.39	.....	0.24	0.0	2	15	15	1	s.	Robt. E. Boyett.
Brenham	Washington	350	21	85.2	+ 1.8	101	18†	72	4†	29	1.26	− 1.85	0.89	0.0	7	17	5	9	se.	Mrs. B. F. Sloan.
Bridgeport	Wise	754	1	.....	.....	.....	.....	.....	.....	.....	0.14	.....	0.14	0.0	1	23	3	5	s.	Claude Strange.
Brighton	Nueces	12	14	83.6	+ 0.6	94	1†	69	5	23	0.00	− 1.30	0.00	0.0	0	28	3	0	se.	G. H. Ritter.
Brownsville	Cameron	38	21	83.8	+ 0.4	98	1	71	13	23	0.48	− 1.39	0.28	0.0	2	.....	.....	.....	s.	U. S. Weather Bureau.
Brownwood	Brown	1,342	20	86.1	+ 3.1	107	30	66	20	36	0.59	− 1.51	0.42	0.0	2	20	11	0	s.	Mrs. Pearl Smith.
Cameron	Milam	.....	2	86.0	.....	105*	18	69	21	31*	0.56	.....	0.41	0.0	3	27	3	1	s.	J. E. Watts.
Carmona	Polk	220	2	82.6	.....	100	2†	62	21	30	4.46	.....	1.66	0.0	7	16	14	1	s.	M. S. Spitler.
Claytonville	Fisher	2,100	15	85.1	.....	108	26†	60	1†	38	0.90	− 2.78	0.50	0.0	3	18	8	5	s.	Wm. Lanius.
Coleman	Coleman	1,710	16	85.6	+ 5.1	105	30†	68	11	26	0.43	− 2.71	0.43	0.0	1	17	12	2	s.	J. E. Stevens.
College Station	Brazos	308	19	84.0	+ 0.6	103	31	67	21	32	0.98	− 1.71	0.94	0.0	3	22*	6*	2*	s.	Prof. G. S. Fraps.
Colorado	Mitchell	2,066	16	85.0	+ 2.8	106	18	60	1	42	0.16	− 3.00	0.10	0.0	2	.....	.....	.....	.....	R. M. Webb.
Columbia	Brazoria	34	21	82.6	+ 0.6	100	18	66	17†	33	1.10	− 3.12	0.50	0.0	3	15	15	1	s.	R. B. Loggins.
Columbus	Colorado	206	6	.....	.....	.....	.....	.....	.....	.....	1.94	.....	1.26	0.0	4	6	22	3	se.	Mrs. Sophie Bridge.
Comstock	Valverde	1,557	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. F. Prosser.
Corpus Christi	Nueces	20	23	82.3	− 0.4	94	1	73	2	20	0.16	− 1.50	0.14	0.0	2	20	9	2	se.	U. S. Weather Bureau.
Corsicana	Navarro	445	21	86.7	+ 3.1	108	18	66	20†	31	0.60	− 2.05	0.57	0.0	2	28	1	2	se.	E. L. Gibson.
Crockett	Houston	350	6	83.8	.....	102	30†	65	3†	31	2.35	.....	0.96	0.0	5	17	12	2	s.	A. M. Rencher.
Cuero	DeWitt	177	21	85.6	+ 0.6	102	18†	69	5†	29	0.62	− 2.03	0.39	0.0	3	28	1	2	s.	H. R. Frobese.
Dallas	Dallas	466	21	85.0	+ 2.6	106	17	63	21†	37	0.43	− 2.97	0.38	0.0	2	20	3	8	s.	G. A. Eisenlohr.
Danevang	Wharton	145	14	83.2	− 0.5	98	1	64	30	33	2.80	− 2.10	1.20	0.0	5	26	4	1	se.	H. P. Hermansen.
Decatur	Wise	1,047	14	.....	.....	.....	.....	.....	.....	.....	0.40	− 4.16	0.40	0.0	1	13	18	0	.....	Fort Worth & Denver Ry.
Del Rio	Valverde	952	4	87.0	+ 2.3	108	4	70	5	34	0.18	− 2.04	0.18	0.0	1	28	3	0	so.	U. S. Weather Bureau.
Devine‖	Medina	653	.....	86.8	.....	108	4	64	5	35	0.60	.....	0.32	0.0	3	25	5	1	se.	M. A. Keller.
Dialville	Cherokee	575	6	82.8	.....	100	29	61	21	31	2.96	.....	1.25	0.0	4	14	15	2	s.	J. M. B. Knight.
Dilley	Frio	569	.....	.....	.....	.....	.....	.....	.....	.....	1.04	.....	0.92	0.0	2	.....	.....	.....	.....	John W. Miller.
Dublin	Erath	1,466	15	84.6	+ 3.6	105	18	67	20	30	0.26	− 2.38	0.26	0.0	1	21	9	1	s.	Jno. O. Shafer.
Duval	Travis	820	21	84.2	− 0.2	103	18	67	5	27	0.51	− 2.23	0.22	0.0	3	12	11	8	s.	J. C. Edgar.
Eagle Pass	Maverick	800	21	94.1	+ 8.0	111	14	74	30	31	0.00	− 1.76	0.00	0.0	0	10	21	0	.....	Jos. Metcalfe.
Edna	Jackson	71	1	.....	.....	.....	.....	.....	.....	.....	1.83	.....	0.83	0.0	5	.....	.....	.....	.....	E. L. Faires.
El Paso	El Paso	3,762	31	83.2	+ 2.7	102	8	64	10	35	0.60	− 1.53	0.59	0.0	2	16	15	0	se.	U. S. Weather Bureau.
Encinal	La Salle	558	2	87.2	.....	110	4	68	5	40	1.24	.....	0.60	0.0	5	13	18	0	se.	H. C. Braden.
Fairland	Burnet	1,000	22	85.9	.....	109	18	68	8†	39	0.70	− 1.19	0.50	0.0	2	24	7	0	s.	R. L. Bush.
Falfurrias	Starr	.....	3	86.0	.....	109	4	67	17†	36	0.61	.....	0.28	0.0	4	25	6	0	se.	W. A. Gardner.
Flatonia	Fayette	465	2	84.2	.....	102	18	66	4	29	1.86	.....	1.66	0.0	4	15	15	1	s.	Fred W. Laux.
Flint‖	Smith	483	.....	83.0	.....	102	30	59	21	36	2.04	.....	1.44	0.0	3	21	8	2	s.	F. C. C. Carter.
Fort Clark	Kinney	1,050	23	86.8	+ 1.8	107*	2	70	4†	31*	0.52	− 1.41	0.29	0.0	3	23	7	1	e.	Post Hospital.
Fort McIntosh	Webb	460	24	91.1	+ 3.7	111	4	74	14†	31	0.25	− 1.69	0.20	0.0	2	15	7	9	e.	Do
Fort Stockton	Pecos	3,050	13	85.7	+ 5.8	107	28†	65	10†	40	0.23	− 2.02	0.13	0.0	2	13	18	0	se.	H. H. Butz.
Fort Worth	Tarrant	670	15	85.0	+ 1.3	105	17	66	20	28	0.14	− 2.90	0.14	0.0	1	13	18	0	s.	U. S. Weather Bureau.
Fredericksburg	Gillespie	1,742	21	83.1	+ 2.3	100*	18†	65*	5	32*	0.33	− 2.13	0.17	0.0	3	18	12	1	s.	Arthur Striegler.
Gainesville	Cooke	738	21	85.4	+ 4.2	106	17†	62	11	34	6.02	+ 1.68	5.15	0.0	3	.....	.....	.....	.....	J. L. Hickson.
Galveston	Galveston	69	40	81.7	− 1.3	89	31	66	19	18	6.19	+ 2.21	2.93	0.0	11	22	8	1	se.	U. S. Weather Bureau.
Gatesville	Coryell	795	6	85.4	.....	108	18	67	2	36	0.30	.....	0.20	0.0	2	20	11	0	.....	John Ryan.
Georgetown	Williamson	750	15	85.0	+ 2.3	106	30	68	6†	35	1.03	− 2.64	0.91	0.0	2	27	4	0	s.	Prof. R. F. Young.
Gonzales	Gonzales	299	5	.....	.....	.....	.....	.....	.....	.....	0.44	.....	0.18	0.0	4	18	12	1	s.	J. M. Johnson.
Graham	Young	1,040	11	87.6‖	+ 4.4	114*	17	63m	7	41m	0.68	− 2.13	0.28	0.0	3	21r	7c	0c	s.	C. W. Johnson.
Grand Saline	Van Zandt	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.32	.....	0.32	0.0	1	17	13	1	s.	F. E. Whittemore.
Grapevine	Tarrant	670	20	86.0*	+ 3.4	108*	17	64*	20	35*	0.47	− 3.12	0.25	0.0	3	4*	19*	1*	s.	W. J. Crowley.
Greenville	Hunt	550	10	86.4	+ 3.0	107	17	65	21	33	0.50	− 3.72	0.50	0.0	1	16	15	0	s.	J. P. Regan.
Hallettsville	Lavaca	235	19	85.3	+ 1.3	101	18†	68	4	28	1.50	− 1.17	1.00	0.0	3	19	9	3	s.	Dr. J. E. Lay.
Harper	Gillespie	.....	.....	.....	.....	.....	.....	.....	.....	.....	T.	.....	T.	0.0	0	9	22	0	.....	Christian Fritz.
Haskell	Haskell	4,013	19	89.7	+ 6.0	112*	29	65	11	38*	2.11	− 0.64	0.95	0.0	3	16	13	2	s.	P. D. Sanders.
Hebbronville	Duval	.....	3	.....	.....	.....	.....	.....	.....	.....	0.97	.....	0.97	0.0	1	.....	.....	.....	.....	Henry Edds.
Hempstead	Waller	254	6	.....	.....	.....	.....	.....	.....	.....	2.05	.....	0.85	0.0	4	12	9	10	sw.	J. H. Hancock.
Henderson	Rusk	500	1	.....	.....	.....	.....	.....	.....	.....	0.58	.....	0.40	0.0	3	18	8	5	.....	M. Kangerga.
Hewitt	McLennan	664	15	.....	.....	.....	.....	.....	.....	.....	0.92	− 2.81	0.65	0.0	2	.....	.....	.....	.....	I. H. Earle.
Hillsboro	Hill	628	7	84.8	.....	103*	17	67*	5	32*	1.95	.....	1.03	0.0	2	.....	.....	.....	.....	Thompson & Campbell.
Hondo	Medina	901	8	90.8	.....	106	2	70	18	33	1.20	.....	1.00	0.0	2	25	6	0	.....	H. E. Haass.
Houston	Harris	138	21	82.1	− 0.9	95	31	66	3	23	4.49	+ 0.61	2.20	0.0	11	17	11	3	s.	U. S. Weather Bureau.
Huntsville	Walker	400	22	82.5	− 0.6	97	17†	67	3†	25	5.77	+ 2.86	1.95	0.0	6	19	12	0	s.	W. Y. Barr.
Jayton	Kent	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.45	.....	0.90	0.0	3	.....	.....	.....	s.	Wichita Valley Ry. Co.
Jewett	Leon	496	6	85.6	.....	109	29	62	20	36	1.21	.....	0.68	0.0	4	12	14	5	s.	Earle Adkisson.
Junction	Kimble	1,645	7	83.1	.....	107	18	60	3†	41	1.00	.....	1.00	0.0	1	31	0	0	.....	Judge John S. Durst.
Kaufman	Kaufman	448	11	87.0	+ 3.7	105	17†	64	20	29	0.55	− 5.19	0.55	0.0	1	24	6	1	s.	B. J. Hubbard.
Keene	Johnson	940	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Industrial Academy.
Kerrville	Kerr	1,650	15	83.7	+ 2.9	105	4	60	5	39	0.35	− 3.05	0.32	0.0	2	12	8	11	s.	Mrs. F. Coleman.
Knickerbocker	Tom Green	2,050	6	86.8	.....	108	4	63	1†	36	0.28	.....	0.28	0.0	1	29	2	0	se.	Jos. Tweedy.
Kopperl	Bosque	576	13	.....	.....	.....	.....	.....	.....	.....	1.34	− 1.42	1.20	0.0	2	20	10	1	s.	T. A. Johnson.
Lagrange	Fayette	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.74	.....	1.50	0.0	3	24	6	1	se.	August Hermes.
Lamesa	Dawson	2,500	.....	.....	.....	.....	.....	.....	.....	.....	1.40	.....	0.90	0.0	4	.....	.....	.....	.....	S. D. Austin.
Lampasas	Lampasas	1,026	19	85.7	+ 3.3	106	17	67	21†	36	0.58	− 1.30	0.21	0.0	4	25	5	1	s.	Mrs. K. I. Webber.
La Parra	Cameron	38	8	.....	.....	.....	.....	.....	.....	.....	0.00	.....	0.00	0.0	.....	.....	.....	.....	.....	Jno. G. Kenedy.
Laureles Ranch	Nueces	20	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Matt Cody.
Liberty	Liberty	38	6	81.5	.....	96	31	67	4	28	7.42	.....	2.84	0.0	10	12	15	4	s.	Mrs. Fannie Sneed.
Llano	Llano	1,040	19	86.8	+ 1.6	105	18	69	5	33	T.	− 1.74	T.	0.0	0	31	0	0	se.	E. W. Torrence.
Llano Grande	Hidalgo	86	2	82.0	.....	102	1†	64	12†	34	1.90	.....	1.70	0.0	2	11	20	0	se.	M. D. Wardlow.
Long Lake	Anderson	229	5	.....	.....	.....	.....	.....	.....	.....	2.19	.....	1.50	0.0	3	18	8	5	s.	Geo. W. Ellis.
Longview	Gregg	336	21	85.2	+ 1.5	104	29	64	20	33	2.41	− 0.82	0.68	0.0	5	16	7	8	sw.	C. A. Propst.

TABLE 1.—*Climatological data for July, 1910. District No. 8*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Texas—Cont'd.																			
Lufkin	Angelina	325	3	81.8	.....	100	29†	62	21	30	1.43	.....	0.73	0.0	4	19	10	2	s.	T. A. King.
Luling	Caldwell	418	21	85.2	+ 0.6	103	18	68	5	28	1.00	− 1.68	0.47	0.0	6	18	13	0	s.	John Carter.
Marathon	Brewster	4,043	...	77.2	.....	97	29	60	12	30	1.30	.....	0.85	0.0	4	10	17	4	s.	Rev. A. P. Willis.
Marble Falls	Burnet	771	2	.....	.....	.....	.....	.....	.....	.....	0.14	.....	0.14	0.0	1	19	7	5	sw.	Wm. Harrison.
Marfa	Presidio	.....	2	.....	.....	.....	.....	.....	.....	.....	0.20	.....	0.10	0.0	2	.....	.....	.....	.....	R. K. Colquitt.
Marshall	Harrison	375	1	82.6	.....	101	29†	59	20	32	0.72	.....	0.53	0.0	4	0	30	1	sw.	Lee Scott.
Matagorda	Matagorda	.....	...	.....	.....	.....	.....	.....	.....	.....	1.35	.....	0.95	0.0	2	23	6	2	s.	W. E. McNabb.
Mexia	Limestone	537	6	82.6	.....	103	30	63	21	33	2.13	.....	1.00	0.0	3	10	16	5	s.	Miss Josephine Newman.
Midland	Midland	.....	3	.....	.....	.....	.....	.....	.....	.....	0.73	.....	0.50	0.0	3	16	13	2	se.	H. J. Elder.
Mission	Hidalgo	.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. H. Romig.
Mont Belvieu‖	Chambers	65	...	.....	.....	.....	.....	.....	.....	.....	4.09	.....	1.37	0.0	11	17	11	3	s.	A. R. Shearer.
Mountain View	Pecos	.....	...	.....	.....	.....	.....	.....	.....	.....	0.25	.....	0.25	0.0	1	.....	.....	.....	.....	Lucius W. Gosselin.
Mt. Blanco	Crosby	2,750	22	80.2	+ 1.9	100	29	61	10	35	1.93	− 1.26	0.67	0.0	5	16	8	7	se.	H. C. Smith.
Nacogdoches	Nacogdoches	271	11	80.4	− 0.2	97	17	63	20	25	2.14	− 2.90	0.97	0.0	6	7	9	15	s.	Miss Mary Hofmann.
New Braunfels	Comal	720	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Giesecke.
Palestine	Anderson	510	28	81.6	+ 0.1	96	30	65	20	24	1.75	− 1.25	0.92	0.0	6	21	10	0	s.	U. S. Weather Bureau.
Panter	Hood	1,000	20	.....	.....	.....	.....	.....	.....	.....	0.18	− 2.55	0.12	0.0	3	.....	.....	.....	.....	E. H. Snider.
Pearsall	Frio	629	...	.....	.....	.....	.....	.....	.....	.....	1.55	.....	1.15	0.0	3	.....	.....	.....	.....	Earnest De Vilbiss.
Pierce	Wharton	102	4	.....	.....	.....	.....	.....	.....	.....	1.97	.....	0.70	0.0	8	14	11	6	.....	R. B. Pointer.
Plainview	Hale	3,370	18	78.8	.....	100	29	59	1†	37	3.16	− 0.61	1.36	0.0	6	25	6	0	se.	J. F. Sander.
Port Lavaca	Calhoun	20	9	84.3	.....	99	1	68	4	25	1.76	.....	1.03	0.0	3	26	4	1	s.	J. H. Bickford.
Post City	Garza	.....	...	.....	.....	.....	.....	.....	.....	.....	0.66	.....	0.21	0.0	6	19	12	0	s.	W. L. Dodd.
Ricardo	Nueces	57	1	85.3	.....	105	3†	69	31	32	0.96	.....	0.34	0.0	4	25	5	1	se.	Lindsay Waters.
Riverside	Walker	169	6	.....	.....	.....	.....	.....	.....	.....	3.30	.....	1.70	0.0	2	23	3	5	s.	Mrs. C. W. Higdon.
Robert Lee	Coke	1,850	11	86.7	.....	105	18	66	1	36	0.09	− 1.77	0.09	0.0	1	26	5	0	s.	H. D. Pearce.
Rockland	Tyler	136	6	.....	.....	.....	.....	.....	.....	.....	2.13	.....	1.10	0.0	5	16	8	7	s.	D. W. Bellamy.
Roseville	Atascosa	558	3	86.4	.....	108	2	59	5	43	0.40	.....	0.19	0.0	4	11	19	1	se.	W. F. M. Ross.
Runge	Karnes	308	15	.....	.....	.....	.....	.....	.....	.....	1.06	− 2.42	1.06	0.0	1	.....	.....	.....	.....	Reiffert & Frobese.
Sabinal	Uvalde	964	6	86.4	.....	108	3	65	4	41	0.69	.....	0.39	0.0	3	7	15	9	e.	Jas. Johnson.
Salado	Bell	.....	...	.....	.....	.....	.....	.....	.....	.....	0.34	.....	0.30	0.0	2	19	8	4	s.	L. M. Crockett.
San Angelo	Tom Green	1,847	19	86.6[d]	+ 3.4	105[b]	4	67	5	37[b]	0.08	− 2.59	0.08	0.0	1	17	14	0	s.	Sam Crowther.
San Antonio	Bexar	701	25	84.8	+ 2.4	101	18	68	5	28	1.37	− 0.85	0.45	0.0	5	19	12	0	se.	U. S. Weather Bureau.
San Augustine	San Augustine	360	1	81.8	.....	100[b]	29	61[d]	20	30[d]	1.81	.....	0.70	0.0	9	11	16	4	.....	F. A. Wilson.
San Juanito‖	Hidalgo	.....	1	91.4	.....	109	4	69[a]	25	35[a]	0.78	.....	0.78	0.0	1	13	10	8	sc.	J. B. McAllen.
San Marcos	Hays	588	17	84.2	+ 1.3	100	18	66	5	29	0.77	− 3.02	0.37	0.0	3	23	0	8	s.	Miss L. C. Ford.
San Saba	San Saba	1,712	6	85.2	.....	106	18	64	19	35	0.27	.....	0.20	0.0	2	28	0	3	s.	Jas. Burns.
Santa Gertrudes	Nueces	.....	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Wright, jr.
Seymour	Baylor	1,320	4	85.4	.....	105	17†	65	3†	36	1.73	.....	0.57	0.0	4	20	8	3	s.	F. M. Deaver.
Sligo	Yoakum	.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. N. Anderson.
Somerville	Burleson	251	1	85.2	.....	101	1†	69	2†	31	0.14	.....	0.14	0.0	1	0	31	0	s.	W. A. Dolan.
Sonora	Sutton	2,200	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mike Murphy.
Sugarland	Fort Bend	79	12	.....	.....	.....	.....	.....	.....	.....	3.80	.....	1.20	0.0	6	9	14	8	s.	Cunningham Sugar Co.
Sutherland Springs‖	Wilson	.....	...	89.2	.....	105	18	74	4†	28	0.80	.....	0.47	0.0	3	27	2	2	s.	W. A. Clark.
Taylor	Williamson	583	9	84.2	+ 1.5	102	18	68	5	32	0.17	− 2.45	0.17	0.0	1	25	6	0	s.	U. S. Weather Bureau.
Temple	Bell	630	16	85.2	+ 3.0	103	18	71	20†	25	0.44	− 2.00	0.20	0.0	3	26	5	0	s.	W. Goodrich Jones.
Theodore	Winkler	.....	...	.....	.....	.....	.....	.....	.....	.....	0.59	.....	0.44	0.0	3	.....	.....	.....	.....	W. H. Gibbs.
Thurber	Erath	.....	...	.....	.....	.....	.....	.....	.....	.....	0.24	.....	0.24	0.0	1	.....	.....	.....	.....	J. K. Ball.
Tilden	McMullen	.....	4	89.3[b]	.....	119[b]	2	66[a]	1	51[b]	T.	.....	T.	0.0	0	.....	.....	.....	.....	Wm. Kuykendall.
Tivoli	Refugio	.....	...	.....	.....	.....	.....	.....	.....	.....	0.00	.....	0.00	0.0	0	24	7	0	.....	W. H. Gisler.
Uvalde	Uvalde	937	2	87.2	.....	110	4	65	56	36	0.42	.....	0.30	0.0	3	4	27	0	se.	F. M. Getzendaner.
Valley Junction	Robertson	289	10	.....	.....	.....	.....	.....	.....	.....	0.44	− 1.78	0.44	0.0	1	17	10	4	s.	T. M. Williams.
Victoria	Victoria	187	12	84.8	+ 0.6	101	18†	68	4	30	1.02	− 2.87	0.70	0.0	3	22	1	8	s.	C. C. Zirjacks.
Waco	McLennan	424	21	87.2	+ 2.0	105	17†	70	21	29	1.67	− 0.68	0.64	0.0	5	24	4	3	s.	E. H. Hall.
Waxahachie	Ellis	556	14	85.1	+ 2.4	105	17†	61	21	33	0.83	− 2.26	0.52	0.0	3	23	6	2	s.	C. D. Longserre.
Weatherford	Parker	864	21	86.2	+ 1.8	105	17	67	20	29	1.72	− 0.77	0.97	0.0	4	27	1	3	n.	Miss J. Stickfort.
Wharton	Wharton	105	8	82.0	.....	96	17†	67[c]	5	27[c]	2.50	.....	1.18	0.0	5	17	2	12	s.	Mrs. F. M. Hughs.
Wills Point	Van Zandt	524	5	84.8	.....	105[a]	20	62[a]	10	35[a]	0.33	.....	0.33	0.0	1	27	3	1	s.	W. W. Gibbard.
Zapata	Zapata	300	1	89.7	.....	113	4	71	14	37	0.25	.....	0.25	0.0	1	14	16	1	se.	F. H. Earnest.

[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
* Precipitation included in that of the next measurement.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
‡ Separate dates of falls not recorded.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
‖ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
‖ Estimated by observer.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for July, 1910. District No. 8, Texas and Rio Grande Valley.*

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Colorado.																																	
Blanca	Rio Grande				.02						.38		T.					T.	.37	T.	.14			T.	.11	T.		T.	.06	.43	.53	.23	2.29
Cumbres	do				.01							T.	.02	T.					T.	T.	T.		.40		.31			T.		.79	.42	.05	2.00
Garnett	do												T.								T.	T.								.10	T.	.02	0.12
Hermit	do				T.					T.		T.		.03	T.		.22	.15	T.			T.	.10	.14	.53	T.		.43		.27	.42	.11	2.40
La Veta Pass	do																																
Manassa	do										.20	T.						T.	T.		T.				T.		T.	.01	T.	.80	.30	.04	1.35
Platoro	do							.03		.12		.06	.14	.15	.01				.11	.19	.03	.07	.03	.22	.43			.02		.01	.71	.49	2.82
Saguache	do	.15																	T.		T.	T.	.20	T.						T.	.10	.85	1.30
San Luis	do				.01						.02									.04	.08			.17	.05		.03	.04		.02	.87	.33	1.66
Wagon Wheel Gap	do																																
New Mexico.																																	
Agricultural College	Rio Grande			T.			T.				.60				.08		.14											.28					1.10
Alamogordo (near)	do												.59	.06		T.												T.				.34	0.99
Alamogordo	do																															.04	0.04
Albuquerque	do										.02		1.40				.38							.02		T.		T.			.06	T.	1.88
Ancho	do										T.	.30			T.	.10						.10		T.					.45				0.95
Artesia	Pecos															T.											T.			.03			0.03
Aspen Grove Ranch	Rio Grande										1.04	1.02	.04	.07						.08	.05				.02	.05	.04		1.04	2.09	.09		5.63
Bateman's Ranch	do										.20	.10		.45											.40		.13			.46			1.74
Bluewater	do															.13	T.						.05	.16	.21		.80		.02	.22	.35	.16	2.10
Bluewater Reservoir	do																																
Boas	Pecos									.28			.05										.20		.10								0.63
Capitan	do				.05			.15			.20		.03			.57												.58			.66	2.24
Carlsbad	do								.02		.44																.45						0.91
Carrizozo	Rio Grande									.02	.02												.01	.03			.20						0.28
Carson Park	do										.52		.12												.05	.15				.60	.38	1.82
Chama	do				T.					T.	T.		T.	T.				T.				T.			.40				T.		1.90	2.30
Cloudcroft	Pecos					T.					T.	T.	T.		T.	1.00	T.					.80			.25			.21	.11	04	.18	.12	2.71
Corona	do													T.	.20	.35							T.	T.	T.	.85			T.			T.	1.40
Coyote	Rio Grande			.01												.02			.02			.05		.32	.08	.03	.18			.15			0.86
Cundiyo	do															.03	.11		.06				T.			T.				.05			0.25
Demonstration Farm	Pecos									.04	.05		.28																	.60			0.97
Duran	do			T.	T.	T.			T.	T.			.22		T.		T.			T.	T.	T.	T.	T.	T.	T.	.14	T.	T.		T.	2.00	2.36
Elk (near)	do																																
Escondido	Rio Grande									T.	.03						.08								.04						.09		0.24
Espanola	do																									T.					.15		0.15
Estancia	do				.16									.06											.08						.14		0.44
Fort Stanton	Pecos				T.		.25	.08			.06					.63			.01			T.	T.		T.	.10			.06		T.	T.	.38	1.57
Fort Sumner	do						.03		T.			.13	T.													.02						.25	.05	0.48
Gallinas	do																								.50	.12							0.62
Gallinas Pltg. Station	do			.54						.06	*	.57	1.01			.01					.22	.37	.01	.19	.07	.70	.15			.82	.77	.10	5.59
Harvey's Upper Ranch	do			.09			T.	T.		T.	.72	.14	.25	.17		.09	T.		T.		.31	.19	.17	.23	.81	.28	T.			.18	.24	T.	3.87
Hillsboro	Rio Grande																																
Hodges	do																																
Hondo Reservoir	Pecos						T.		.12																	.64						.03	0.79
Hope	do																																
Hopewell	Rio Grande										T.	.13	T.	.28	T.	.24			T.	T.	T.	T.	.09	.07	.44	.13	T.	.23		.10	1.25	.06	3.02
Jemez Springs	do					.19							2.00	.05	.02	.14	.03	.01	.01		T.	.20	.02	.08	.05	.06	.04	.04			.40		3.34
Knowles (near)	Pecos						T.		.20		.20								.05														0.45
Laguna	Rio Grande													.22													.65			T.			0.87
Lagunita	Pecos							.14					.22		.23								T.				.06						0.65
Lake Valley	Rio Grande					T.			T.		T.	T.	.30	.54	.14	.08	.03			T.	T.	T.	T.	.02			.05	.55	.02		.15		1.88
Las Vegas	Pecos									.11			.06	1.40		.17	.12				T.	T.		.06	.04	.07					.40	.05	2.48
Liston	do						.02		.08	.04			.50									.05			.09						.18		0.96
Los Lunas (near)	Rio Grande																																
Los Tanos	Pecos						.15					.57									.11	T.		T.	T.	.20			T.		.35	T.	1.38
Magdalena	Rio Grande				T.				T.				.90		.03							T.	.40	.13	T.	T.		.15	T.	.05	.15	.30	2.11
Mineral Hill	Pecos		.12								.15		.80	.94																.50	.50		3.01
Monterey	Rio Grande													.20																	.10		0.30
Mountainair	do				T.		T.	T.			.29		.04			.20				T.			.03	.06	T.	T.	.36	T.	.05	.32	.89	2.24
Newman	do						.20				.09			T.			T.				T.		T.									0.29
Noria	do						.05				.60				.01		.15																0.81
Orange	do					T.			.05		T.	T.					.20														T.		0.25
Orogrande	do							T.			T.		T.				T.										.23	T.			.07		0.30
Oscura	do										.43		.03	.03		T.			.01			.01			.02			.01					0.54
Otis	Pecos				.09				.01	.17									T.						.03	T.	.63						0.93
Otto	Rio Grande								T.	.73	.03		.14						T.				.05	.17						.23	.37	1.74
Pastura	Pecos							.90			*	1.50												.03	.06	.11				.02	*	.65	3.27
Picacho (near)	do																																
Plainview (near)	do																																
Red River Canyon	Rio Grande					T.	T.				T.	T.	T.		T.						.50										.40	T.	0.90
Rincon	do										T.												.16										0.16
Rio Grande Dam	do				T.			T.			T.		T.	.55	.05	T.	T.				.02	T.			.74					T.	T.	1.36
Rosedale	do			T.	T.	.05	T.	.02			T.			.44	.05	.01			.01			T.	T.	.22	.03	.04	.13		T.	.02	T.	.01	1.03
Roswell	Pecos						.02		.01		.24											T.			.25	.02				.01	.02		0.57
San Marcial	Rio Grande																																
San Rafael	do											T.	.13			.17								.31				T.	T.	.13	.34	.15	1.23
Santa Fe	do			T.		.18				.03	.06	T.		T.		T.	T.			.03		T.	T.	.01	T.	T.	T.	.26		T.	.01	.24		0.82
Santa Fe Canyon	do					T.					T.									.40		.25	.15	T.			.20	.30		.10	.10	.10	1.70
Santa Rosa	Pecos								T.			.03	.19									.07		10	T.		.04			.03	.17	0.63
Socorro	Rio Grande							.05			.05			.28							.08		.07	.03		.06	.05		.10			.03	0.80
Stanley	do							.04			.46		.11	.14								T.			.13		T.				.07	1.11
Strauss	do										.11						.27								.27							.05	0.70
Swastika Ranch	do				T.	.12	T.	.03													T.	.37	.04			.28		.35		T.	.36		1.55
Taft	Pecos											.08									.04			.04	.08						.02	.04	0.30
Tajique	Rio Grande									.05	.20		.20	.18	.24	.24			.14			.09		.08		.15	.20					.10	1.87
Taos	do										.50	.25	.05			T.							T.				T.						1.24
Taos Canyon	do									T.	.10	T.	.96						T.		.50	.22	.16	.20	.23	.27	.15	.21	.15	.29	.83	.10	4.37
Tecolote	do																					.07									.08		0.15
Three Rivers	do							T.		T.	.03			.02								T.	T.						T.			.04	0.09
Tijeras Canyon	do										T.	.01		.38					.15		T.	.05		.21		.07	.33	.04		.04	.44	.17	1.89
Torrance	Pecos														.10							.11			.15			.16					0.52
Tres Piedras	Rio Grande									T.	.40	T.	.40	.10								T.		T.	.20		T.		T.	.15	.30	1.55
Truchas	do											T.				T.	T.					.10	.40		.60	.70		T.	T.		.10	.20	2.10
Tularosa	do												.06		.04														.02			.29	0.41
Vaughn	Pecos																								.10	.20						.20	0.50
Virsylvia	Rio Grande										.04			.01						.05	.14					.11	.11		.17	.27	.04	0.94
Winsors	do										.03	.02	.19	.09			.20						.68	.53	.16	.50	.07	.03	.01		.45	.26	3.22
Texas.																																	
Abilene	Brazos							T.	.02		.24		T.	.04					.02														0.32
Albany	do							T.	T.			T.	T.	T.	T.				T.														T.
Anahuac	do	.33	.09	1.34	1.46	.11						1.45	.45	.02					.04	.75	.07		.38				.18						6.67
Austin	Colorado	.02			.07															.03													0.12
Ballinger	do										.60									T.													0.60

TABLE 2.—*Daily precipitation for July, 1910. District No. 8*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Texas—Cont'd.																																	
Barstow	Pecos						.90				.21	.35													T.								1.46
Bay City	Colorado				1.02	T.									.45						.25		.20										1.92
Beaumont	Neches			4.38	.98	T.	.44		.82			.11	1.21	.18	1.02					.82	T.			.08			.25						10.29
Beeville	Coast			.45		.15							.13		.21						.13												1.07
Big Springs	Colorado	T.	1.00							T.				.14					.10														1.24
Blanco	Guadalupe	.40		.10		.06								.33						.15													1.04
Boerne	San Antonio				.50						.25							.09															0.84
Booth	Brazos			.63	.36	.72					.08	.44	.10	.08	.96	.03					.18			.05				.10					3.73
Boquillas	Rio Grande																																0.00
Bowie	Trinity							T.	T.		.20	.04	T.	1.47																			1.71
Brazoria	Brazos																																
Brazos	...do	.21							.15																								
Brenham	...do	.05	T.	.02	.89			T.			T.		T.	.01	.08					.20								.01					0.39
Bridgeport	Trinity											.14																					1.26
Brighton	Coast																																0.14
Brownsville	Rio Grande						T.				T.	.20		.38																			0.00
Brownwood	Colorado	.42																															0.48
Cameron	Brazos			.14	.01	T.														.17													0.59
Carmona	Neches			.49	.75	.02					T.		1.46	1.66	.02				T.	.41													0.56
Claytonville	Brazos								.20					.20					.50														4.46
Coleman	Colorado							T.			.43								T.														0.90
College Station	Brazos			.94											.02				.02	T.													0.43
Colorado	Colorado						.08					.10																					0.98
Columbia	Brazos				T.						T.	T.	.20	.40						.50													0.16
Columbus	Colorado	T.	T.	1.25		.58		.08				T.	.02		T.	T.																	1.10
Comstock	Rio Grande																																1.94
Corpus Christi	Coast		.14		.02		T.					T.								T.													0.16
Corsicana	Trinity			.01					.57																								0.60
Crockett	...do		T.	.96	.45				.12			T.	.40	.42	T.				T.							T.							2.35
Cuero	Guadalupe			.20		.39							.03							T.													0.62
Dallas	Trinity								.38						.65																		0.43
Danevang	Coast		.20		.25								.70	.45						1.20													2.80
Decatur	Trinity										.40																						0.40
Del Rio	Rio Grande		T.																	.18													0.18
Devine	Nueces	T.		T.	.32							.10		T.						.18													0.60
Dialville	...do			1.08	.55			1.25				.08		T.				T.	T.	T.					T.								2.96
Dilley	...do													.12							.92												1.04
Dublin	Brazos								T.											.26													0.26
Duval	Colorado	.21	.22		T.							T.	T.	T.							.08													0.51
Eagle Pass	Rio Grande																																0.00
Edna	Lavaca				.83						.30	T.	.40	.20							.10													1.83
El Paso	Rio Grande					T.	T.				.50						T.		T.				T.	T.				T.			.01		0.60
Encinal	Nueces	.63		.07	.10								.07	.40																			1.24
Fairland	Colorado	T.	T.						T.				20						.50	T.													0.70
Falfurrias	Coast				.13						.05	.15	T.	.28																			0.61
Flatonia	Guadalupe				1.66							.09	.05	.06																			1.86
Flint	Neches		T.	.23	.37			1.44										T.															2.04
Fort Clark	Rio Grande	.29		.13	.10																												0.52
Fort McIntosh	...do		.05	.20																													0.25
Fort Stockton	Pecos									T.	.10	.13																					0.23
Fort Worth	Trinity		T.					.14	T.																						T.		0.14
Fredericksburg	Colorado	.12	.17		.04																												0.33
Gainesville	Trinity							.40				3.15		.47																			6.02
Galveston	Coast	.09		1.10	.31	1.11				T.	T.	T.		.42	.03	T.				2.81	.12	.11			T.		.01	.08	T.				6.19
Gatesville	Brazos							.10	.20																								0.30
Georgetown	...do				.91															.12													1.03
Gonzales	Guadalupe			.05		.09							.18	.12																			0.44
Graham	Brazos							.25	.28				.15																					0.68
Grand Saline	Sabine							.32																									0.32
Grapevine	Trinity							.25																									0.47
Greenville	Sabine			T.					.50										.19	.03													0.50
Hallettsville	Lavaca	T.	.38		1.00						T.	.12		T.	T.					T.	T.													1.50
Harper	Colorado										T.					T.																	T.
Haskell	Brazos	.69									.20	.95								.27													2.11
Hebbronville	Coast		.07																														0.97
Hempstead	Brazos				.85		T.		T.		T.	T.	T.	.20	.80					T.	.20												2.05
Henderson	Neches				.40				.14					.04																			0.58
Hewitt	Brazos							T.	.65					T.					T.	.27													0.92
Hillsboro	...do								.92									1.03															1.95
Hondo	Nueces			.20																1.00													1.20
Houston	Coast	.38		.65	2.20	.05		T.	T.	T.	.06	.12	.43	T.	.01	T.					.56						.01	.01					4.49
Huntsville	Trinity			1.95	1.78	.72								.27	.25				T.	.80													5.77
Jayton	Brazos								.40		.15		.90																					1.45
Jewett	Trinity		.14		.29			.68				.10							T.															1.21
Junction	Colorado	1.00																															1.00
Kaufman	Trinity							.55																									0.55
Keene	Brazos																																
Kerrville	Guadalupe	.32																		.03													0.35
Knickerbocker	Colorado		T.								.28																						0.28
Kopperl	Brazos			T.				1.20												.14													1.34
Lagrange	Colorado	T.	1.05		.19			T.												1.50								T.					2.74
Lamesa	...do		.20				.23		.07								.90																1.40
Lampasas	Brazos			.11					.14	.21										.12													0.58
La Parra	Coast																																0.00
Laureles Ranch	...do																																
Liberty	Trinity		.64	2.84	2.44	.16	T.	.22	T.	.31			T.	.08	.09	T.				T.							.30	.34					7.42
Llano	Colorado							T.				T.							T.	T.													T.
Llano Grande	Rio Grande												T.	1.70							.20												1.90
Long Lake	Trinity			1.50		.33			.36																								2.19
Longview	Sabine			.09	.58	.60			.46																			.68					2.41
Lufkin	Neches			.73	.46				.20										.04														1.43
Luling	Guadalupe	.02			.16	T.							.05		.25						.47								.05				1.00
Marathon	Rio Grande	.85									.10	.05	.30																				1.30
Marble Falls	Colorado																			.14													0.14
Marfa	Rio Grande			.10	.10																												0.20
Marshall	Sabine			.05	.53	.12												T.	.02														0.72
Matagorda	Coast				.40																						.95						1.35
Mexia	Brazos			.21					.92			1.00																					2.13
Midland	Colorado	.50								.15		.08																					0.73
Mission	Rio Grande																																
Mont Belview	Coast			.84	.80	.07				.30	.08	.27	1.37		.06					.04	.08						.09						4.00
Mountain View	Pecos										.25	T.																					0.25
Mt. Blanco	Brazos	.13				.67			.81				.20						.12														1.93
Nacogdoches	Neches			.10	T.	.34			.07					.36	.30					.07													2.14

TABLE 2.—*Daily precipitation for July, 1910. District No. 8*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Texas—Cont'd.																															
New Braunfels	Guadalupe																														
Palestine	Trinity		.01	.12	.86			.70						.02					.04												1.75
Panter	Brazos		.03					.12	.03																						0.18
Pearsall	Nueces				1.15									.20						.20											1.55
Pierce	Colorado	.08		.35	.70									.19	.07						.13						.16	.29			1.97
Plainview	Brazos	.21	.08					1.36	T.	.13	.78		.60					T.													3.16
Port Lavaca	Coast			T.	1.03															T.		.23					.50				1.76
Post City	Brazos		.04					.09	.15		.21	.02		.15																	0.66
Ricardo	do				.34							.32	.10	.20														T.			0.96
Riverside	Trinity			1.70	1.60										T.																3.30
Robert Lee	Colorado										.09								T.												0.09
Rockland	Nueches			.35	.41				.15						.12														1.10		2.13
Rossville	do				.07							.11								.19	.03										0.40
Runge	San Antonio													1.06																	1.06
Sabinal	Nueces	.10			.39															.20											0.69
Salado	Brazos																		.30				.04								0.34
San Angelo	Colorado		T.								.08																				0.08
San Antonio	San Antonio		.15		.31							.38		.08						.45											1.37
San Augustine	Neches	.01		.02	.70	T.	T.	T.	.02	T.	T.	.04	.30	.35	.23			T.	.14								T.				T.	1.81
San Juanito	Coast				T.									.78																	0.78
San Marcos	Guadalupe	.37													.20						.20											0.77
San Saba	Colorado							.20											.07													0.27
Santa Gertrudes	Coast																														
Seymour	Brazos							T.	.20		.57	.56	T.	T.				.40													1.73
Sligo	Colorado																														
Somerville	Brazos														14																0.14
Sonora	Rio Grande																														
Sugarland	Brazos			1.10								.70		.10						1.20							.50	.20			3.80
Sutherland Springs	do		.12		.21							.47																			0.80
Taylor	do		T.									T.		T.					.17												0.17
Temple	do	.16			.08			T.												.20											0.44
Theodore	Pecos						.44				.10	.05																			0.59
Thurber	Brazos									.24																					0.24
Tilden	Nueces				T.																										T.
Tivoli	Guadalupe																														0.00
Uvalde	Nueces	.08		.30	.04								T.	T.						T.											0.42
Valley Junction	Brazos																			.44											0.44
Victoria	Guadalupe	.05			.27									.70																	1.02
Waco	Brazos	.12	T.	.64					.11				T.		.24					.56											1.67
Waxahachie	Trinity		.07					.24											.52												0.83
Weatherford	do	.23						T.			.05	.47		T.						.97											1.72
Wharton	Colorado			.18	.10	.77							.27															1.18	T.		2.50
Wills Point	Sabine							.33																							0.33
Zapata	Rio Grande													T.							.25										0.25

TABLE 3.—*Maximum and minimum temperatures at selected stations, July, 1910 District No 8, Texas and Rio Grande Valley.*

| Date. | Colorado. | | New Mexico. | | | | | | | | | | Texas. | | | | | | | | | |

Climatological Data for July, 1910.

DISTRICT No. 9, COLORADO VALLEY,

FREDERICK H. BRANDENBURG, District Editor.

GENERAL SUMMARY.

A continuation of the hot, dry weather and clear skies that characterized May and June obtained until nearly the middle of the month, broken only by light scattered showers. With a change in the general distribution of pressure cloudless skies were less persistent, and the long looked for seasonal thundershowers set in, with here and there heavy downpours. At Bisbee, Ariz., 4.25 inches fell on the 22d, causing washouts; while at Bloomfield, N. Mex., 1 inch fell on the 27th in 30 minutes. As a result of the protracted drought the ranges throughout the district remained in an unsatisfactory condition. A marked improvement quickly followed the rains in Arizona, and in a less degree in more northerly districts. A decided shortage of water for irrigation was experienced in the southern counties of Arizona until the 15th. Similar conditions prevailed in the southwestern parts of New Mexico and Colorado.

TEMPERATURE.

The mean of the 131 stations reporting was 75.4°, or 0.3° above the normal. An excess was general, except in southwestern New Mexico and southern Arizona, and in a few localities in the valleys of the Green and Grand rivers. By subdivisions the means and departures were: Western Wyoming, 64.4°, +3.4°; western Colorado, 65.0°, +0.4°; eastern Utah, 74.2°, +1.9°; western New Mexico, 74.3°, +0.7°; southeastern Nevada, 82.7°; Arizona, 83.2°, −0.3°. The highest monthly mean was 97.2° at Mohawk Summit, Ariz., and the lowest, 50.3° at Corona, Colo.

In the northern part of the district daily mean temperatures were slightly below the normal during the first 15 days; then followed high mean temperatures, almost to the close of the month. In the southern part of the district the changes were more frequent but not important.

For the subdivisions included in District No. 9, the extremes observed were: Wyoming, 98° and 31°; Colorado, 102° and 27°; Utah, 110° and 34°; New Mexico, 106° and 34°; Nevada, 114° and 40°; and Arizona, 123° and 36°.

PRECIPITATION.

The average precipitation for the 177 stations reporting was 1.70 inch, or 0.18 inch above the normal. In Wyoming and Nevada practically none occurred prior to the 15th, and the amounts noted during the rest of the month were small. In Colorado beneficial showers fell on the 3d and 4th; showers were general after the 12th, especially from the 27th to the close of the month. In Utah showers also occurred on the 3d and 4th; they were general on the 14th and 15th. From the 26th to the close of the month the precipitation was heavier and of benefit. Prior to the 12th or 13th only light and scattered precipitation occurred in New Mexico and Arizona. A moderately wet period ended on the 16th or 17th; and from the 21st or 22d rain fell almost daily. By watersheds the means and departures were: Green, 1.14, +0.09; Grand, 1.32, +0.03; San Juan, 2.06, +0.21; Little Colorado, 2.36, +0.77; Gila, 2.14, +0.24; Mimbres, 1.25, −1.00; Colorado, proper, 1.03, +0.42 inch. The greatest monthly amount was 5.72 inches at Bisbee, Ariz., and the least, a trace, at Mohawk Summit, Ariz., and Hite, Utah. The average number of days with 0.01 inch or more of precipitation was seven.

RIVERS.

The volume discharged by the Grand and the Green rivers was small as compared with that of the corresponding month last year. In the Grand River gage heights averaged 3 feet lower, and in the Green River 4 feet lower than last July. In the Colorado, proper, the average gage height was 11.4 feet lower at Grand Canyon, Ariz., and 7.4 feet lower at Yuma, Ariz., than a year ago.

MISCELLANEOUS.

The percentage of sunshine was close to the normal. Grand Junction reported 83, Flagstaff 69, Phoenix 84, and Yuma 91 per cent of the possible.

The mean monthly relative humidity ranged from 36 per cent at Grand Junction to 60 per cent at Flagstaff.

PUMPS AND ELECTRIC POWER, GILA INDIAN RESERVATION, ARIZ.

When the pumping station now being installed at wells already constructed on the Gila Indian Reservation, and within a short distance of Mesa, are completed, 15,000 acres of irrigated land will have been added to the agricultural area of the Salt River Valley, without a drop of water from the Roosevelt Dam.

This announcement was made by Louis C. Hill, Supervising Engineer, United States Reclamation Service, Phoenix, Ariz., after his return from an inspection of the Gila River wells, near Sacaton.

The irragation engineers were forced to go to a depth of 60 feet for water in almost every one of the nine wells at Sacaton and the six wells located from 7 to 9 miles south of Mesa.

With the 60-foot shafts constructed to get the pumps at water level, and all other work, including the digging of the wells, machinery, and power line construction, they will cost $10,000 each. This is a considerable amount to pay for a well, but when it is realized that each well irrigates 1,000 acres of land, the question of cost vanishes. It costs much more than that to irrigate the land under the Roosevelt Project.

The wells at Sacaton are all on the Gila River Indian Reservation, and were dug and constructed for the benefit of the Indians exclusively. They will result in much increased prosperity for these national wards, who are paying every dollar of the cost, without recourse to the white man, and they will maintain the wells in the future, although the Government will furnish them electric power from the Roosevelt Dam.

The same thing is true of the Mesa wells, save that these wells are for the benefit of the white farmers, and will be paid for and maintained by them.

This addition of 15,000 acres to the irrigated area of the Salt River Valley lands is a large item in the life of this valley, and one that is gained absolutely over and above the Roosevelt Project.

SCHOOLS OF FISH IN SALT RIVER POWER CANAL, ARIZONA.

An incident of more than ordinary interest occurred at Roosevelt on July 26. Quite heavy rains had fallen over the Apache Mountain Range, on the upper watershed of the Salt River, north of Globe, Ariz., on the 25th. The moderate runoff reached the Intake at Livingstone late on the 25th and at Roosevelt on the 26th. A part of this flood water was diverted into the power canal at Livingstone, which discharges into the penstock, for the turning of the large water wheels. The fish in the upper Salt River, retreating before the flood, sought the clear water of the power canal in unusually large numbers, so great in fact that many tons of them were driven down through the power canal for about 10 miles to the large screen at the head of the penstock, wedging it so full that the water was literally dammed up and the turbine wheels could not rotate. This necessitated the switching off of the power on the power transmission line running between Roosevelt and Phoenix, and

Phoenix, Mesa and Tempe were without power and light for fully an hour on the 26th.

A similar incident occurred at the Roosevelt Dam in August, 1909, but on that occasion there was only two or three tons of fish, which did not stop the water wheels. In the case of this year, there were a great many more fish. The screen at the penstock is a conical shaped device some 12 feet in diameter at the upstream end, and is 20 feet in height. Within it is a sort of trough above the surface of the canal water, sloping down grade to a point on the bank of the canal above the screen. A little pump supplies this trough with water, and the screen, revolving through its sides and lower end strains the water into the penstock, shooting the sticks and wood, leaves and débris into the trough, whence it is washed out. The device works excellently under ordinary conditions, and with a fair amount of running fish, but on the 26th the fish came down the canal in such large quantities that they choked the screen and shut off the water. The services of four men were required for one full hour to shovel the fish into the trough and float them out to the dump pile over the side of the bank. There they fell down the hillside along the pathway of the little rivulet supplied by the trough pump, into a larger ditch below, into which a large head of water was turned, and they were washed down into the reservoir. It is needless to say that the entire population of Roosevelt lived on fish for nearly one week thereafter.

In this connection, it may be pertinent to state that the Government Fish Commissioner intends to fully stock the Roosevelt Reservoir with a large variety of fish, for none of the fish came out of the Roosevelt Reservoir, but several miles above it, from the upper Salt River. The fish in the reservoir can not get into the power canal, unless they jump or crawl 60 to 150 feet higher, which is not an impossibility among the eel family.

CHANGE IN CHIRICAHUA NATIONAL FOREST.

The President has signed a proclamation adding 30,560 acres to, and at the same time eliminating 57,297 acres from, the Chiricahua National Forest in Arizona and New Mexico. These changes are the result of a careful examination made by the Secretary of Agriculture, which showed that the areas excluded are not needed for forest or watershed protection.

The most important of these changes is the elimination from the forest reserve of a large area, consisting for the most part of grass land, on the southern and eastern boundaries of the New Mexico division which was formerly known as the Peloncillo National Forest. This will leave Sanders Pass and the surrounding territory on the southern slope of the Animas Range entirely outside of the forest lines. Smaller eliminations of nonforest lands are also made from the Chiricahua and Peloncillo divisions.

The additions comprise a number of areas of juniper and pinion scattered along the exterior boundaries of the Chiricahua, Peloncillo, and Dragoon divisions. The latter division, by the recent proclamation, has been transferred from the Coronado to the Chiricahua National Forest.

The unappropriated portions of the lands eliminated by this proclamation will be restored to settlement and entry after having been advertised in the local papers by the Secretary of the Interior.

TABLE 1.—*Climatological data for July, 1910. District No. 9, Colorado Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Wyoming.																				
Battle Mountain	Carbon	7,300																		U. S. Forest Service.
Daniel	Uinta	6,740	11	59.4	+ 3.2	85	14†	31	7†	49	0.33	− 0.49	0.23	0.0	2	10	12	9	nw.	J. M. Van Dervort.
Eden	Sweetwater	6,577	2	65.2	.....	91	18	34	6	51	0.82	.....	0.53	0.0	6	10	16	5	w.	Eden Valley L. & I. Co.
Green River	...do	6,083	5	71.4	.....	98	25	38	6†	52	0.35	.....	0.28	0.0	4	14	14	3	w.	Geo. W. Maxon.
Pinedale	Fremont	7,167	4																	U. S. Forest Service.
Rambler	Carbon	9,232									2.18	.....	0.52	0.0	7	7	23	1	w.	J. C. Fothergill.
Willow Creek Cabin	Freemont	7,500	2																	J. L. Allen.
Colorado.																				
Ashcroft	Pitkin	9,483	8	57.2	.....	83	19†	32	1	46	1.88	.....	0.61	0.0	11	.....	.....	.....	.....	Dan McArthur.
Bed Rock	Montrose																			W. B. Weybright.
Breckenridge	Summit	9,536	20	55.4m	+ 2.0	82	26	30	3†	47m										Mrs. J. G. Thompson.
Cascade	San Juan	8,900	4								2.79	.....	0.71	0.0	18	12	12	7	e.	San Juan P. & W. Co.
Chromo	Archuleta	7,500	4	63.1	.....	93	19†	30	2	55	1.92	.....	1.03	0.0	7	8	21	2	sw.	Lawrence Nolan.
Cochetopa	Saguache	9,088									0.89	.....	0.35	0.0	9	6	21	4	w.	Bessie McDonough.
Collbran	Mesa	6,000	17	69.8	.....	91	19†	47	1†	38	0.71	− 0.43	0.30	0.0	5	19	11	1	sw.	A. A. Wood.
Columbine	Routt	8,766																		Mrs. M. A. Caron.
Columbine Ranch	Delta	6,925									1.67	.....	1.18	0.0	6	15	6	10	s.	Geo. W. Wade.
Corona	Grand	11,660	3	50.3	.....	65	24†	30	9	25	1.10	.....	0.70	0.0	2	.....	.....	.....	w.	U. S. Weather Bureau.
Crawford (near)	Montrose	6,600	....	71.1	.....	91	20	49	5	33	0.27	.....	0.10	0.0	5	15	16	0	.....	C. W. Roe.
Crested Butte	Gunnison	8,867	....	56.6	.....	83	19†	29	5†	51	1.56	.....	0.80	0.0	6	13	16	2	w.	Charles L. Ross.
De Beque	Mesa	4,935				102	20†				0.24	.....	0.10	0.0	3	20	10	1	.....	C. M. Paine.
Delta	Delta	4,965	19	75.8	+ 1.6	101	18†	47	1†	50	0.18	− 0.68	0.07	0.0	4	15	14	2	.....	E. M. Getts.
Dillon	Summit	8,800	1	71.2	.....	83	23	57	12	22	2.36	.....	0.50	0.0	10	18	13	0	n.	Harry T. Hamilton.
Dolores	Montezuma	6,500	1																	Geo. R. Simmons, jr.
Durango	La Plata	6,534	17	69.3	+ 0.4	94	19	44	2	43	0.95	− 0.63	0.48	0.0	12	3	27	1	nw.	U. S. Weather Bureau.
Eagle	Eagle	6,598	5	63.6	.....	91	15†	35	3	50	1.58	.....	0.67	0.0	7	19	11	1	w.	J. M. Witteman.
Eureka	San Juan	10,000	3								2.11	.....	0.31	0.0	16	.....	.....	.....	.....	San Juan P. & W. Co.
Fraser	Grand	8,560		54.2		81	27	27	7†	50	2.06	.....	0.64	0.0	12	13	7	11	n.	L. D. C. Gaskill.
Fruita	Mesa	4,510	11	76.2	+ 1.0	102	20†	49	8	50	1.45	+ 0.66	0.67	0.0	3	16	14	1	sw.	J. B. Willsea.
Gladstone §	San Juan	10,400	3								2.96	.....	0.70	0.0	9	2	27	2	sw.	San Juan P. & W. Co.
Glenwood Springs (near)	Garfield	5,823	12	67.8	− 0.1	98	28	40	3†	55	2.28	+ 1.28	0.95	0.0	6	25	6	0	w.	E. A. O'Neil.
Grand Junction	Mesa	4,608	19	78.8	− 0.4	101	22	59	1	41	0.96	+ 0.46	0.68	0.0	6	15	14	2	nw.	U. S. Weather Bureau.
Grandlake	Grand	8,153	2								1.57	.....	0.50	0.0	6	.....	.....	.....	.....	Mrs. Belle Kauffman.
Grand Valley	Garfield	5,089	18	74.2	+ 1.4	101	19	43	2	53	0.67	− 0.23	0.17	0.0	6	27	4	0	.....	David Evans.
Gunnison	Gunnison	7,670	17	63.0	+ 2.0	90	19†	30	3	54	1.00	− 0.20	0.57	0.0	6	16	14	1	sw.	Clarence Adams.
Horsefly	Montrose	8,700																		L. J. Finch.
Ironton	Ouray	10,000									3.02	.....	0.94	0.0	18	2	28	1	sw.	P. H. Foley.
Kremmling (near)	Grand	7,337	1	63.1	.....	93	26	37	2	49	1.84	.....	0.45	0.0	12	12	12	7	.....	H. A. Howe.
Lake City	Hinsdale	8,686	5	63.0		87	19	35	5	43	1.24	.....	0.39	0.0	11	4	25	2	s.	J. F. Maurer.
Lay	Routt	6,190	16	67.5	+ 0.8	96	19†	32	6	56	0.97	+ 0.09	0.40	0.0	5	18	8	5	sw.	A. G. Wallihan.
Leal	Grand	8,750									0.28	.....	0.06	0.0	10	6	24	1	.....	L. J. Wade.
Lujane	Montrose	6,620	4	73.2	.....	93	20	49	2	41	0.87	.....	0.44	0.0	4	18	13	0	sw.	U. S. Reclamation Service.
Mancos	Montezuma	6,960	11	67.8	+ 1.6	92	19†	40	1†	45	2.39	+ 1.18	0.78	0.0	8	5	26	0	sw.	B. M. Krumpanitzky.
Marble	Gunnison	7,951	1	61.9	.....	90	25†	35	1†	50	1.47	.....	0.41	0.0	8	14	15	2	e.	Homer Harrington.
Marshall Pass	Saguache	10,846	7																	William D. Lillard.
Meeker	Rio Blanco	6,182	18	64.0	− 1.5	90a	26	38	9†	47a	1.00	− 0.60	0.15	0.0	9	13	12	6	sw.	T. Baker.
Montrose (near)	Montrose	5,811	21	65.8	− 4.2	90	2†	44	1†	46	0.10	− 0.71	0.06	0.0	3	18	13	0	.....	R. Butterfield.
Nast	Pitkin	7,953		59.7		84	24†	38	1†	44	1.72	.....	0.74	0.0	6	17	14	0	w.	Arthur Hanthorn.
Pagoda	Routt	6,500	19	64.3	+ 0.4	93	25	35	6†	55	1.89	+ 0.63	0.81	0.0	6	28	1	2	.....	Shaw Brothers.
Pagosa Springs	Archuleta	7,108	3	64.4		95	19	32	1	54	2.47	.....	0.46	0.0	14	3	27	1	sw.	E. T. Walker.
Paonia	Delta	5,694	15	73.1	+ 0.1	96	26	49	1†	41	0.31	− 0.67	0.18	0.0	3	21	7	3	sw.	J. M. Underwood.
Parshall	Grand		1								1.34	.....	0.44	0.0	7	.....	.....	.....	.....	F. A. Field.
Pitkin	Gunnison	9,500	1								1.39	.....	0.38	0.0	9	18	12	1	.....	Mrs. Maggie Cammann.
Rangely	Rio Blanco	5,050	11																	Mrs. C. P. Hill.
Redcliff	Eagle	8,695	15								2.45	+ 0.43	0.80	0.0	6	16	7	8	.....	Dorothea Greiner.
Rico	Dolores	8,824	8								2.00	.....	0.62	0.0	11	12	11	8	sw.	Clinton B. Smith.
Rifle	Garfield	5,437																		Horace Mann.
River Portal	Montrose	6,570	4	71.6	.....	97	18†	43	4	46	1.11	.....	0.65	0.0	3	11	11	9	.....	U. S. Reclamation Service.
Sapinero (near)	Gunnison	8,125	8	61.0	.....	86	20†	33	2	44	1.21	.....	0.45	0.0	8	18	10	3	w.	W.F. Irving.
Shoshone	Garfield	6,110		71.2	.....	93	26	48	5	32	0.60	.....	0.27	0.0	11	9	17	5	.....	Central Colo. Power Co.
Silverton (1)	San Juan	9,285	6	57.7	.....	84	19	29	2	47	2.05	.....	0.30	0.0	14	10	21	0	sw.	A. P. Root, jr.
Silverton (near) §	do	9,400	3	55.6k	.....	78k	20	28k	2	44k	2.36	.....	0.61	0.0	14	3	21	7	sw.	San Juan P. & W. Co.
Spruce Lodge	Grand	9,600	2								3.24	.....	0.69	0.0	13	.....	.....	.....	.....	H. J. Wills.
Steamboat Springs	Routt	6,683	7	61.6	.....	92	25†	29	24	61	1.23	.....	0.29	0.0	6	28	2	1	.....	M. E. Houston.
Tacoma §	La Plata	7,300	3	66.6	.....	91	18	46	1†	39	3.28	.....	0.90	0.0	6	9	20	2	n.	San Juan P. & W. Co.
Terminal Dam §	do	8,300	3								2.15	.....	0.40	0.0	20	5	25	1	s.	Do.
Terrill's Ranch	Mesa	7,000									0.69	.....	0.27	0.0	6	18	12	1	sw.	A. F. Terrill.
Uncompahgre Plateau	Montrose	8,400									1.51	.....	0.28	0.0	9	12	19	0	sw.	Martin Esser.
Whitepine	Gunnison	9,500	10	56.2	.....	80	26	32	3†	42						9	20	2	s.	C. E. Macy.
Yampa (near)	Routt	8,000	1								1.62	.....	0.41	0.0	9	5	24	2	w.	Percy A. Hughes.
Utah.																				
Baker	San Juan	7,560	1								1.91	.....	1.30	0.0	11	25	4	2	s.	Maude A. Palmer.
Basin	Grand	9,500	1								2.19	.....	0.74	0.0	11	6	25	0	w.	E. H. Wolf.
Castle Dale	Emery	5,500	11	71.9	+ 3.1	97	18†	40	24	55	0.65	+ 0.07	0.30	0.0	5	20	11	0	.....	James Jeffs.
Elkhorn	Uinta	6,657												0.0	7	6	6	19	.....	Forest Supervisor.
Emery	Emery	6,260	10	67.8	+ 2.6	90	20†	41	2	42	0.20	− 0.21	0.20	0.0	1	2	3	26	sw.	H. C. Wickman.
Escalante	Garfield	5,700	10	70.0	+ 0.2	93	24	45	1	42	3.21	+ 2.31	1.25	0.0	8	13	0	18	.....	Geo. H. Barney.
Fort Duchesne	Uinta	5,000	22	73.3	+ 2.4	102	18	40	6	54	0.67	+ 0.18	0.30	0.0	5	13	6	12	w.	Post Surgeon.
Fruitland	Wasatch										1.69	.....	0.52	0.0	9	13	15	3	sw.	J. Peter Naab.
Grayson	San Juan	5,750	6								0.05	.....	0.03	0.0	3	11	11	9	sw.	Joseph A. Lyman.
Green River	Emery	4,080	13	83.2	+ 3.5	108	20	55	24	52	0.67	+ 0.46	0.46	0.0	3	22	8	1	nw.	B. F. Miller.
Hanksville	Wayne		1																	F. J. Weber.
Hite	Garfield	3,000	11	87.3	+ 2.9	110	20	61	1†	39	T.	− 0.45	T.	0.0	0	12	17	2	.....	John P. Hite.
La Sal	San Juan	7,000	10	69.2	+ 1.5	90	20	46	1	33	1.50	+ 0.76	0.57	0.0	9	12	6	13	.....	Chas. L. Glassmire.
Loa	Wayne	7,000	18																	Michael Hansen.
Manila	Uinta										0.93	.....	0.35	0.0	7	6	23	2	w.	Daniel M. Nelson.
Moab	Grand	4,000	21	79.3	+ 1.9	105	20	51	1†	49	0.25	− 0.36	0.21	0.0	4	12	14	5	.....	Henry Crouse.
Monticello	San Juan		2																	D. B. Perkins.
Orderville	Kane		1								1.39	.....	0.43	0.0	10	.....	.....	.....	.....	F. A. Porter.
Price	Carbon	5,557																		H. C. Smith.
Ranch	Kane	6,700	9	64.0		90	19†	34	1†	47	2.88	.....	0.78	0.0	8	11	16	4	w.	J. W. Seaman.
Saint George	Washington	2,880	29	83.2	+ 1.0	110	28	50	5†	56	1.72	+ 0.75	0.70	0.0	5	8	10	13	.....	Joseph T. Atkin.
Scofield	Carbon	7,625	2																	O. E. Jorgensen.
Springdale	Washington		3	84.6	.....	107	18	59	3†	40	0.18	.....	0.18	0.0	1	10	11	10	.....	Hattie Flanigan.
Sunnyside	Carbon	5,280	5								1.46	.....	0.50	0.0	6	.....	.....	.....	.....	Henry Cullum.
Teasdale	Wayne	7,000	2	68.6e	.....	87d	21	46e	1	31e	1.04	.....	0.48	0.0	7	5e	0e	19e	.....	Josiah Shurtz.
Theodore	Wasatch	5,507	5	69.6	.....	96	19†	42	2	48	1.05	.....	0.25	0.0	9	10	10	11	.....	M. M. Smith.

TABLE 1.—*Climatological data for July, 1910. District No. 9*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Utah—Cont'd.																				
Tropic	Garfield	7,000	13	69.3	+ 2.1	96	21	39	5	43	1.04	+ 0.15	0.52	0.0	6	5	20	6	sw.	E. P. Bolton.
Trout Creek Ranger	Unita	9,200									3.05		0.85	0.0	12	7	15	9		Forest Supervisor.
Vernal	do	5,050	15	71.0	− 0.7	98	25	43	6	48	1.12	+ 0.38	0.42	0.0	4	25	5	1		S. P. Trim.
New Mexico.																				
Alma	Socorro	5,500	14	77.8	+ 3.3	106	8	45	1	57	1.65	− 0.69	1.00	0.0	7	4	20	7	sw.	M. A. Balke.
Aragon	do	5,856	3	66.0		98	21	40	7	54	1.14		0.35	0.0	8	7	22	2	sw.	John R. Milligan.
Blackrock	McKinley	6,500	2	71.4		95	20	44	3	45	2.58		0.56	0.0	8	6	21	4	w.	Wm. J. Oliver.
Bloomfield	San Juan	5,500	15	76.9	+ 2.1	106	20	44	2	56	1.56	+ 0.76	1.00	0.0	6	0	31	0	se.	Fred Le Clerc.
Cambray	Luna	4,215	11								0.79	− 0.47	0.64	0.0	3	5	23	3	e.	Southern Pacific Co.
Columbus	do	4,054	1			105	7	64	11†		0.54		0.18	0.0	7	21	0	10	w.	El Paso & Southwest. R.R.
Deming	do	4,333	33	80.6		105	5†	57	11	46	0.96	− 0.96	0.70	0.0	5	5	14	12	w.	Southern Pacific Co.
Dulce	Rio Arriba	6,767	3	67.8	+ 2.7	95	16†	34	2	54	2.03	− 0.54	0.79	0.0	15	7	22	2	w.	G. H. Blakeslee.
Fort Bayard	Grant	6,152	35	72.6	− 0.1	94	2†	48	11	43	1.45	− 1.55	0.35	0.0	7	18	13	0	e.	U. S. Gen'l. Hospital.
Fort Wingate	McKinley	6,997	46	69.5	− 2.3	92	20†	48	2†	40	2.40	+ 0.16	0.60	0.0	10	3	12	16	sw.	Medical Corps, U. S. A.
Fruitland	San Juan	4,800	17	75.8	+ 0.8	101	18†	43	2	53	0.90	+ 0.28	0.80	0.0	2	10	20	1	sw.	Cyril James Collyer.
Gage	Luna	4,486	3	81.1		104	2†	59	11	44	0.68	− 1.02	0.26	0.0	3	13	18	0	e.	Southern Pacific Co.
Gila (near)	Grant	4,470	11	77.2	− 0.1	106	7	41	1	58	2.47	− 0.10	1.15	0.0	5					T. J. Clark, sr.
Gila Planting Station	do	6,475																		U. S. Forest Service.
Hachita	do	4,504	1								0.97		0.45	0.0	4	11	20	0	nw.	El Paso & Southwest. R.R.
Haynes	Rio Arriba	6,600																		Dr. John Roger Haynes.
Hermanas	Luna	4,451	1								0.07		0.02	0.0	5	21	10	0	w.	El Paso & Southwest. R.R.
Lordsburg	Grant	4,245	10	82.2	− 1.1	1.05	8	58	2	44	2.09	+ 0.35	0.56	0.0	6	6	21	4	sw.	Southern Pacific Co.
Luna	Socorro	7,300	5	66.7		90	1†	38	2	51	1.70		0.50	0.0	8	1	30	0	s.	C. B. Martin.
Mimbres	Grant	5,007	5			102	4				2.37		0.67	0.0	8	14	17	0	se.	Chas. Dennis.
Pratt	do	4,415	1								3.79		1.30	0.0	6	14	15	2	e.	El Paso & Southwest. R.R.
Putnam	San Juan	6,200									1.07		0.84	0.0	3	24	7	0	e.	Miss Elenor L. Quick.
Redrock	Grant	4,150	5								4.34		0.98	0.0	8	5	26	0		Robert H. Woods.
Rodeo	do	4,118	1								3.26		0.90	0.0	10	19	12	0		ElPaso & Southwest. R.R.
Ross	Rio Arriba	6,000	5																	B. A. Candelario.
Arizona.																				
Alliares Ranch	Cochise	4,184	14								1.70	− 0.92	1.57	0.0	5	18	5	8	w.	Thos. Allaire.
Arizona Canal Dam	Maricopa	1,372	17	89.6	− 0.4	112	7†	62	1	42	1.60	+ 0.37	0.82	0.0	4	5	20	6	s.	U. S. Reclamation Service.
Aztec	Yuma	492	11	92.2	− 3.4	118	20	64	1†	53	0.31	− 0.16	0.20	0.0	4	20	4	7	w.	Southern Pacific Co.
Benson	Cochise	3,523	30	82.2	− 3.2	107	7	60	5	42	1.70	− 0.29	0.60	0.0	6	2	14	15	e.	Southern Pacific Co.
Bisbee	do	5,500	20	75.6	+ 0.1	95	7†	59	28	28	5.72	+ 2.06	4.25	0.0	8	16	15	0	e.	Rev. J. G. Pritchard.
Bonita	Graham	4,916																		A. Johnson & Co.
Bowie	Cochise	3,756	34	83.6	+ 2.9	108	6†	58	1	43	1.30	− 1.59	0.65	0.0	7	7	18	6	sw.	Southern Pacific Co.
Buckeye	Maricopa	980	19	89.9	+ 2.6	116	7	56	1	51	0.79	− 0.31	0.71	0.0	3	24	7	0	s.	H. E. Kell.
Camp Verde	Yavapa	3,160																		T. R. Gabbard.
Canille	Santa Cruz	5,225	1								4.78		1.15	0.0	10	0	23	8	se.	R. A. Rodgers.
Casa Grande	Pinal	1,396	29	93.6	+ 0.4	116	7†	60	2	52	1.25	+ 0.51	0.58	0.0	7	15	12	4	sw.	Southern Pacific Co.
Cave Creek	Maricopa	1,520	3	87.4		114	7†	53	2	55	2.22		0.72	0.0	6	22	8	1		E. A. Howard
Chin Lee	Apache	6,090	2	75.6		100	20	44	7	50	1.96		0.90	0.0	9	4	15	12	sw.	Fr. L. Ostermann, O. F. M.
Chlarsons Mill	Graham	8,000	3																	H. R. Chlarson.
Clifton	do	3,584	20	88.7		109	8	65	13†	34	2.22	+ 0.48	0.88	0.0	7	18	13	0		P. Reisinger.
Cline	Gila	2,300	11	86.4		109	7†	55	1	50	1.05	− 0.55	0.73	0.0	2	8	19	4	sw.	W. M. Clanton.
Cochise	Cochise	4,219	12	78.1	− 3.7	103	7†	54	16	38	2.61	+ 0.57	1.45	0.0	4	12	14	5	e.	Southern Pacific Co.
Columbia	Yavapai	1,900	10	91.0	+ 3.0	112	7	74	1	32	1.05		1.05	0.0	1	14	13	4	se.	M. J. Nolan.
Congress	do	3,688	14	84.0	− 1.4	105	7†	63	18	35	5.22	+ 3.45	2.15	0.0	10	12	12	7	sw.	Congress Mine.
Courtland	Cochise	4,543	1								2.17		0.47	0.0	9	3	28	0	sw.	El Paso & Southwest. R.R.
Dos Cabezos	do	5,250	2	77.9		108	7	50	4	56	4.06		2.15	0.0	7	9	20	2	e.	N. Erickson.
Douglas	do	3,930	7	81.2		107	6	57	2	48	2.52		0.97	0.0	12	9	20	2	sw.	Dr. F. T. Wright.
Dudleyville	Pinal	2,204																		G. F. Cook.
Fairbank	Cochise	3,862	1								4.82		2.60	0.0	9	9	3	19		El Paso & Southwest, R.R
Flagstaff	Coconino	6,907	18	65.4	+ 0.4	91	20	36	1	46	3.07	+ 1.28	0.60	0.0	13	9	14	8	sw.	U. S. Weather Bureau.
Florence	Pinal	1,504	11	88.0	+ 1.8	115	20	62	2†	50	2.15	+ 0.64	1.40	0.0	3	10	8	13	w.	Pacific & Eastern R. R.
Fort Apache	Navajo	5,200	39	74.2	+ 0.1	98	7	46	1	48	2.07	− 0.84	0.60	0.0	8	12	15	4	s.	Post Surgeon, U. S. A.
Fort Huachuca	Cochise	5,100	25	75.8	− 1.3	103	2	50	23	44	3.40	− 0.23	1.20	0.0	6	12	12	7	nw.	Post Surgeon, U. S. A.
Fort Mohave	Mohave	604	37	94.8	+ 0.1	117	14	65	9	41	0.18	− 0.05	0.12	0.0	2	14	16	1		A. F. Duclos.
Gilabend	Maricopa	737	20	93.6	− 0.8	119	5	67	17	49	0.43	− 0.27	0.13	0.0	4	23	6	2	s.	Southern Pacific Co.
Globe	Gila	3,525	9	82.6		107	7	59	1†	39	2.18		1.22	0.0	7	10	21	0	nw.	Dr. B. G. Fox.
Grand Canyon	Coconino	6,866	7																	Grand Canyon Ry.
Greer	Apache	9,200	6								2.94		0.50	0.0	15	6	6	19	s.	Mrs. M. Butler.
Hereford	Cochise	4,180	1								3.82		1.27	0.0	10	5	0	26	s.	El Paso & Southwest. R.R.
Holbrook	Navajo	5,069	20	77.2	+ 1.5	104	8†	49	15	49	2.63	+ 1.03	0.48	0.0	10	21	3	7	sw.	T. Larson.
Intake	Gila	2,230	5								1.45		0.60	0.0	4	12	14	5	sw.	A. J. Robinson.
Jerome	Javapai	4,743	13	80.4	+ 0.1	100	20†	62	14	29	1.62	− 0.58	0.42	0.0	6	10	19	2	s.	Dr. L. A. Hawkins.
Keams Canyon	Navajo	6,600	7	71.7		95	20	43	1	44	3.84		0.93	0.0	13	3	28	0	sw.	L. R. Ballard.
Kingman	Mohave	3,326	9	82.2		110	21	48	1	52	0.85		0.32	0.0	4	13	16	2	sw.	J. R. Gooding.
Lewis Springs	Cochise	4,029	1								2.47		1.29	0.0	7	6	16	9		El Paso & Southwest. R.R.
Maricopa	Pinal	1,186	33																	Southern Pacific Co.
Mesa	Maricopa	1,244	16	86.6	− 2.1	109	6	60	13	45	0.88	− 0.16	0.63	0.0	2	12	17	2	sw.	C. L. Diehl.
Mohawk Summit	Yuma	538	10	97.2	+ 0.0	123	7	80	25†	33	T.	− 0.15	T.	0.0	0	10	18	3	e.	Southern Pacific Co.
Naco	Cochise	4,579	1								2.64		0.77	0.0	8	12	19	0	w.	El Paso & Southwest. R.R.
Natural Bridge	Gila	4,990	21								1.95	− 0.35	0.82	0.0	5	13	18	0	sw.	D. G. Goodfellow.
Nogales	Santa Cruz	3,830																		Wallace & Summerhayes.
Oracle	Pinal	4,500	18																	W. H. Winters.
Osborn	Cochise	4,676	1								3.43		2.30	0.0	9	3	22	6	nw.	El Paso & Southwest. R.R.
Paradise	do	3,940	3	73.4		98	12	48	13	43	2.27		2.00	0.0	7	1	20	10	sw.	J. C. Hancock.
Parker	Yuma	345	13	88.0	− 4.1	118	11	60	3	52	0.52	+ 0.14	0.30	0.0	2	16	15	0		Dr. H. V. King.
Payson	Gila	5,500	2	74.2		96	6†	43	1	47	1.03		0.35	0.0	4	3	7	21	sw.	M. McDonald.
Phoenix (1)	Maricopa	1,108	15	89.6	− 0.8	111	20	68	1	38	0.65	− 0.42	0.30	0.0	5	14	14	3	w.	U. S. Weather Bureau.
Pinal Ranch	Pinal	4,520	16								1.98	− 0.57	1.10	0.0	6	13	15	3		Irion & Craig.
Pinto	Apache	5,660	5																	Mrs. C. F. Henning.
Prescott	Yavapai	5,320	42	72.5	+ 0.9	97	20	46	1†	43	1.89	− 0.99	0.52	0.0	11	17	5	9		Dr. J. W. Flinn.
Quartzsite	Yuma	800	3	92.2		114	7†	66	1	42	0.81		0.56	0.0	5	19	12	0	w.	W. E. Scott.
Redrock	Pinal	1,856	3	92.2		116	12	68	1	40	1.09		0.68	0.0	6	1	30	0	w.	W. J. Crowell.
Roosevelt	Gila	2,175	6	90.8		113	20	66	3	41	1.21		0.79	0.0	3	16	15	0		W. A. Schoenfeld.
Sacaton	Pinal	1,280	3	89.8		115	20	62	1	48	0.65		0.65	0.0	1	24	6	1		E. W. Hudson.
Saint Johns	Apache	5,650	9	74.9		103	20	47	2	48	2.35		0.90	0.0	6	9	18	4	sw.	A. Shreeve.
Saint Michaels	do	6,950	23	72.4	+ 3.1	97	21	47	7	44	3.01	+ 1.03	1.00	0.0	9	4	0	27	sw.	Rev. A. Weber, O. F. M.
Salome	Yuma	1,875	3	82.7		112	20	50	2	51	0.79		0.74	0.0	2	12	13	6	s.	Mrs. M. B. Swartz.
San Carlos	Gila	2,456	29	85.8	− 0.5	112	7	53	2	56	1.54	− 0.05	0.65	0.0	5	6	22	3	w.	F. S. Thomas.
San Simon	Cochise	3,609	25	82.8	− 1.5	108	7	58	1	44	0.85	− 0.06	0.50	0.0	3	12	16	3	sw.	Southern Pacific Co.
Seligman	Yavapai	5,219																		C. W. Dougherty.
Sentinel	Maricopa	685	12	93.8	− 1.4	116	7	66	1	42	0.52	+ 0.08	0.25	0.0	4	13	17	1	sw.	Southern Pacific Co.
Showlow	Navajo	6,300	7																	Miss Zora Hall.

TABLE 1.—*Climatological data for July, 1910. District No. 9*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Arizona—Cont'd.																				
Silverbell	Pima	2,650	5	87.2	.....	107	7	64	23	35	3.11	.....	1.10	0.0	9	16	13	2	w.	Imperial Copper Co.
Snowflake	Navajo	5,644	1	73.7	.....	98	8	46	2	48	1.67	.....	0.50	0.0	7	8	16	7	sw.	W. J. Flake.
Supai	Coconino	3,200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. E. Coe.
Tempe	Maricopa	1,165	6	88.6	.....	113	20	60	1	44	0.67	.....	0.34	0.0	4	15	12	4	w.	F. H. Simmons.
Thatcher	Graham	2,800	7	81.8	.....	109	7	53	2	50	0.82	.....	0.40	0.0	5	14	14	3	se.	Prof. J. H. Larson.
Tombstone	Cochise	4,550	16	77.8	− 0.6	99	7	54	30	33	4.91	+ 1.67	2.60	0.0	9	7	21	3	.....	F. N. Walcott.
Truxton	Mohave	4,197	1	79.6	.....	104	21	50	1	45	1.02	.....	0.38	0.0	5	12	18	1	.....	S. M. Atkinson.
Tuba	Coconino	4,500	11	76.8	− 1.2	100	19†	53	1	42	0.89	+ 0.34	0.44	0.0	7	4	25	2	ne.	G. H. Kraus.
Tucson	Pima	2,390	31	85.8	− 1.2	110	7	61	2	47	4.21	+ 2.09	1.82	0.0	5	2	25	4	nw.	University of Arizona.
Vail	....do	3,421	12	86.0	+ 0.1	111	7	60	2	46	2.73	+ 1.90	1.22	0.0	5	8	21	2	.....	Southern Pacific Co.
Walnut Grove	Yavapai	3,649	20	.....	.....	.....	.....	.....	.....	.....	3.10	+ 1.40	1.67	0.0	7	12	16	3	.....	J. O. Carter.
Wickenburg	Maricopa	2,072	11	88.4	+ 2.7	112	7	64	1	43	1.06	+ 0.29	0.42	0.0	5	13	17	1	sw.	Santa Fe, Presc't & Phoenix
Willcox	Cochise	4,164	30	77.6	− 4.5	107	7	60	1†	52	2.45	+ 0.50	0.92	0.0	6	7	21	3	sw.	Southern Pacific Co.
Williams	Coconino	6,750	11	68.8	+ 0.4	94	8	36	4	50	3.01	+ 0.32	1.40	0.0	7	6	23	2	sw.	E. J. Nordyke.
Winslow	Navajo	4,853	7	79.6	.....	106	8†	49	1	51	0.60	.....	0.30	0.0	3	21	4	6	.....	J. F. Bauer.
Yarnell	Yavapai	4,700	12	.....	.....	.....	.....	.....	.....	.....	4.02	+ 1.42	1.56	0.0	9	6	24	1	s.	E. L. Bartholomew.
Yuma	Yuma	141	31	91.0	+ 0.1	116	20	64	1	43	0.84	+ 0.71	0.82	0.0	3	27	2	1	sw.	U. S. Weather Bureau.
Nevada.																				
Caliente	Lincoln	4,407	....	75.4	.....	104	9†	42	1	58	0.23	.....	0.06	0.0	6	17	14	0	ne.	Agent Salt Lake Route.
Las Vegas	Clark	2,033	2	85.2	.....	114	10	40	13	58	0.65	.....	0.20	0.0	5	.....	.....	.....	.....	Salt Lake Route.
Logan	....do	1,700	3	87.6	.....	114	21	55	4	50	0.11	.....	0.05	0.0	3	6	14	11	s.	Ray. M. Filcher.

a, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
* Precipitation included in that of the next measurement.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
‡ Separate dates of falls not recorded.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
‖ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
‖ Estimated by observer.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for July, 1910. District No. 9, Colorado Valley.*

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Wyoming.																															
Battle Mountain	Snake					.15										.23	.05					T.							.37				0.80
Daniel	do				T.								T.	T.		T.		T.		.23	.10		T.				T.				T.	0.33
Eden	Green												T.			.01	T.	T.		.01	.01	T.						.45	.08	.26			0.82
Green River	do				.02											.01		T.		T.	T.		T.					T.	T.	.28	.04		0.35
Pinedale	do																																
Rambler	Snake			T.	.52			T.							T.	T.	.35	.20	T.	.37		T.	T.				T.	.10	T.	.27		.37	2.18
Willow Creek Cabin	Green																																
Colorado.																																	
Ashcroft	Grand			.03	.15	.06								.02			T.	.02		T.	.03	.22	.02					.10	.61	.21	.13	.28	1.88
Bed Rock	Dolores																																
Breckenridge	Grand		.05																									.09	1.25	.81	.49	.05	
Cascade	San Juan				.05						.02	.05		.20		.01	.05	.11	.23	.08	.15	.13	.04	.67	T.			.08	.05	.15	.58	.14	2.79
Chromo	do				T.						T.		T.	T.	.13	T.		.10		T.	.12	T.				T.	T.	.05	.27	T.	1.03	.22	1.92
Cochetopa	Gunnison					.03							T.						.05	.11	.01			.03	T.				.24	.11	.20	.11	0.89
Collbran	Grand				.19	.06											.06												.09	.01	.30		0.71
Columbine	Yampa																																
Columbine Ranch	Gunnison			.02	.20												.08						.08							T.	1.18	.11	1.67
Corona	Grand	T.										T.	T.					.40	T.		T.	T.		T.						.70	T.	1.10
Crawford (near)	Gunnison			.10															T.									.04	.02	.04		.07	0.27
Crested Butte	do			.06	.08	T.												.15			.05							.80	T.	.42	T.	T.	1.56
De Beque	Grand			.06	.08												.10																0.24
Delta	Gunnison				.03	.03													.05				.07										0.18
Dillon	Grand	.02	T.		.09																.20	T.		.10	.50	.40	.20	.45	.30	.10	T.	T.	2.36
Dolores	Dolores																																..
Durango	San Juan			T.	.01					T.		T.		T.	.05	T.	.02				T.	.02		.02	.07	.01	.05	.18		.22	.28	.02	0.95
Eagle	Grand				.27									T.							27						T.	.21	.03	.6	.11	.02	1.58
Eureka	San Juan			.11	.17						.06	.08	.07			.08		.10		.08	.28	.07					.11	.16	.08	.13	.22	.31	2.11
Fraser	Grand					.15											.13	.13	.21	.20	.07	.02						.45	.32	.26	.10	.02	2.06
Fruita	do			T.	.13							T.			T.	.67		T.				T.				T.	T.		.65		T.	1.45
Gladstone	San Juan			T.	.40	.20									.10			.70		.10									.30	.48	.45	.23	2.96
Glenwood Springs (nr)	Grand				.10																							.55	.40	.75	.36	.12	2.28
Grand Junction	do				.03										T.	.05	.18		T.								T.	.61	.07	.02		T.	0.96
Grandlake	do												T.	T.			.45	T.	T.	T.	.15			T.			T.	.15	.15	.17	.50		1.57
Grand Valley	do				.14	.01		T.				T.		T.	.02	T.	T.	.17	.16	T.								T.	.17		T.	T.	0.67
Gunnison	Gunnison				.10									T.			T.		.02		T.	T.		.10				.05	.16	T.	.57	T.	1.00
Horsefly	do																																
Ironton	do			.10	.07	.06									.09	.03	.04	.13	.12	.94		.14	.02		.01	T.	.09	.35	.04	.30	.34	.15	3.02
Kremmling (near)	Grand				.33	.16					.11	T.		.02		T.	.14	T.	.08			.27	.04					.30	.15	.15	.09	T.	1.84
Lake City	Gunnison				.02	.02					T.	T.		.02	.04			.04	.23					T.	T.			.32	.04	.39	.05	.07	1.24
Lay	Yampa				.03	T.					T.	T.				.40	.15				T.					T.	T.	.12	.21		T.	0.97
Leal	Grand				.02									.02			.01	.01		.05	.03	T.	T.					.03	.06	.04		.01	0.28
Lujane	Gunnison			.21	.23											.30						T.					T.	.13			T.	0.87
Mancos	San Juan			.01		T.								.17			T.										.78	.59	.01	.05	.68	.10	2.39
Marble	Grand			*	.30	.15						T.						.30	.17									.10	T.	.41	.04		1.47
Marshall Pass	Gunnison																																
Meeker	White					.03			.04				.10	.10		.26												.15	.12	.10		.10	1.00
Montrose (near)	Gunnison				.01	.05																								.03			0.10
Nast	Grand				.15	.05														.22		.27						.74		.29			1.72
Pagoda	Yampa				.21											.40	.12		T.								.53	.28	.35				1.89
Pagosa Springs	San Juan				T.					.01		.05	.05	.30			.06	T.		.16	.10	T.	.02	T.	.33	.28		.16	.06		.46	.43	2.47
Paonia	Gunnison			T.	.18	T.											T.										T.	T.	.04	T.	T.	.09	0.31
Parshall	Grand			.44	.04													.06										*	*	.80			1.34
Pitkin	Gunnison			T.	.10													.05	.38	.10	.30	.05	T.						.06	.05	.30			1.39
Rangely	White																																
Redcliff	Grand				.30	.40								.05		T.										.50			.40	.80	T.	T.		2.45
Rico	Dolores				T.					.02				.16			.11		.22						.02	.11			.24	.20	.08	.62	.15	2.00
Rifle	Grand																																
River Portal	Gunnison			.38												.65												T.	.08				1.11
Sapinero (near)	do			.04	.45	.13						T.						T.	.06				T.	T.				.11	.22	.03	.17	T.	1.21
Shoshone	Grand			*	.20												.01			.01	.07	.01						.01	.01	.01	T.	.24	.03	0.60
Silverton	San Juan			.20	.18					T.	.27	T.	.05	.04			.02	.20	T.	.27		.08	T.					.02	.11	.06	.25	.30	T.	2.05
Silverton (near)	do		.15	T.	.20	.27					.30	T.		T.	T.			.61	T.	.11		.10	T.	T.	.11			.01	.12	.11	.15	.10	.02	2.36
Spruce Lodge	Grand				.15	.16											.23	.43	.13	.23	.53	.03	.08					.07	.40	.69	.11			3.24
Steamboat Springs	Yampa				.23	.05															.29							.25	.15	.25				1.23
Tacoma	San Juan					T.						T.			T.			.70	.70		.50	.40	.40								.58			3.28
Terminal Dam	do				.04				.02	.04	.09	.12	.04	.06		.10	.05	.04			T.	.40	.34	.10	.05	.07	.01	.03		.05	.40	.10	2.15
Terrill's Ranch	Grand				.08											.05	.24											.27	.02			.03	0.69
Uncompahgre Plateau	Gunnison			.20	.18	T.										.10	T.		.07	.17									.12	.24	.28			1.51
Whitepine	do																																
Yampa (near)	Yampa				.41								T.	.04						.04			.11					*	.48	.31	.20		.03	1.62
Utah.																																	
Baker	Colorado			.05	.08							.02			.06					.01		.04						.03	.20	.08	1.30	.04	1.91
Basin	Grand			.07	.15	.02									.14	.74	.08									.02	.03		.10	.41		.43	2.19
Castle Dale	Green			.30								T.		.10	.05				.15								.05	T.	T.		T.	T.	0.65
Elkhorn	do																																
Emery	Colorado			T.	T.												T.	T.	T.	T.	T.								.20			0.20
Escalante	do				.08										.15								.02				.60	.93	1.25		.05	.13	3.21
Fort Duchesne	Green				.30	T.										.05						.06					T.		.08		.18	0.67
Fruitland	do			.04	T.							T.	T.	T.	T.	.21	T.	.10	.04	.02	.11						.18	.47	T.	T.	T.	.52	1.69
Grayson	San Juan																																
Green River	Green			T.	.08											.13												T.		T.	.46	T.	0.67
Hankeville	Colorado			.03	.01																.01												0.05
Hite	do			T.	T.							T.			T.		T.		T.			T.				T.		T.				T.
La Sal	Grand			.08	.13										.10	.06	.51											.10	.09		.30	.13	1.50
Loa	Colorado																																
Manila	Green				.09											.12						.03	.19				.07			.06	.35		0.93
Moab	Grand			T.	.03										.10	.11	T.										.01			T.			0.25
Monticello	do																																
Orderville	Colorado			.01	.06									.14	.22		.02							.16			T.	.03	.40	.11	.24		1.39
Price	Green																																
Ranch	Colorado			.33						T.				T.	.62		.08										.20	.30	.40	.78	.17		2.88
St. George	do														.70		.60											.23	.02	.17			1.72
Scofield	Green																																
Springdale	Colorado																									.18							0.18
Sunnyside	Green			.06								T.			*	.30												.20		.50	.40		1.46
Teasdale	Colorado			.01	T.												.10				T.						.07	.19	.11		.48	.08	1.04
Theodore	Green			T.	T.						.25	.03	.01	.01	.15		.08		T.	T.	T.	.14					T.	.18	T.	.20		T.	1.05
Tropic	Colorado			T.						T.	T.	T.	T.	.14	.06	T.	.04	.14	T.	T.			T.					.14				.52	1.04
Trout Creek Ranger	Green				.85					.05	.10		.10		.40		.10				.05	.60					.10	.15	.45	.10			3.05
Vernal	do				.42																	.05							.25	.40			1.12
New Mexico.																																	
Alma	Gila										T.		*	.22	1.00		T.							.04				.08	.30	T.	.01			1.65
Aragon	do												.22	.10	.12	T.							.10	.05				.35		.05	.15			1.14
Blackrock	Little Colorado													T.	.28	.31					T.	.49	.56	.50	.10	.03		T.		T.	.31			2.58

TABLE 2.—*Daily precipitation for July, 1910. District No. 9*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
New Mexico—Cont'd.																															
Bloomfield	San Juan				T.	.01	T.					T.	T.	T.	.02	T.	.05		T.	T.	T.	T.	T.	T.	.14	T.	T.	1.00	T.	T.	.34		1.56
Cambray	Mimbres												.64		.10	.05																0.79
Columbus	Gila										T.		.11	.01	.07																.03	0.54
Deming	Mimbres											T.		.08	.08	.10											*	.70				0.96
Dulce	San Juan				.01	T.				T.	.04	.06	.20	.16	.03		T.		.20		.02	.03				.02	.03		.09	.06	.79	.29	2.03
Fort Bayard	Mimbres							T.	T.		.10	.10	.20	.25	T.		.35					T.	.20		.15		T.		T.	T.		T.	1.45
Fort Wingate	Little Colorado					T.						T.		.10	.10	.20		T.		T.	T.	T.		.10	.20		.60	.10		.30	.20	.50	2.40
Fruitland	San Juan					T.										T.								T.				.80		.10			0.90
Gage	Mimbres												.22	.26															.20				0.68
Gila	Gila						.05					.30	1.15		.55		.42										T.		T.				2.47
Gila Planting Station	Mimbres																																
Hachita	Gila													.45	.05		T.									.38		T.			.09	T.	0.97
Haynes	San Juan																																
Hermanas	Gila													.01	.01								.02			.01		.02					0.07
Lordsburg	...do													.50	.28	.29							.22					.24			.56		2.09
Luna	...do				T.						T.	T.	T.		.20							.04	.35	.50	.10	.07		.35		.09			1.70
Mimbres	Mimbres										.07		.06	.67	.28	.61	.25									.09			.34				2.37
Pratt	Gila												.77	.25	1.30								.70		.32		.45						3.79
Putnam	San Juan						.16																			.07				.84			1.07
Redrock	Gila											.04	.20	.34		.98	.40											.61	.93	.84			4.34
Rodeo	...do					T.					T.	.05		.43	.48	.64		.10				T.		.59	.04	.90		.02			.01		3.26
Rosa	San Juan																																
Arizona.																																	
Allaires Ranch	Sonora													.03	.01								1.57				.08				.01		1.70
Arizona Canal Dam	Salt														.82		.30				.01				.47								1.60
Aztec	Gila													.03	.05		.03							.20									0.31
Benson	San Pedro				.10						T.		.20	.48	.20		.12						.60		T.		T.		T.		T.		1.70
Bisbee	...do				T.	T.		T.			T.	T.		.28	.57		.12	T.	T.				4.25	.25	T.	.11		.09		.05	T.		5.72
Bonita	Mimbres																																
Bowie	Gila													.25	.65		.15	.10					.10							.03	.02		1.30
Buckeye	...do		T.											T.	T.		.05						.71						.03		T.		0.79
Camp Verde	Verde																																
Canille	San Pedro		T.		.05					.12	.50			.56	.81							T.	1.15	.78				61	.07		.13	T.	4.78
Casa Grande	Gila												.02	.07	T.	.02		.16				T.	.50	.26				22					1.25
Cave Creek	Verde														.69					.21			.20	.30				72			.10		2.22
Chin Lee	San Juan			T.		T.					T.		T.		.07	.53	.17	.01							T.	.09	.05	T.		.09	.90	.05	1.96
Chlarsons Mill	Gila																																
Clifton	...do				T.								.45	.31	.88	.08							.07	T.			.01			.42		2.22
Cline	Salt														.73								.32										1.05
Cochise	Desert										.05		1.01	.10									1.45			T.							2.61
Columbia	Agua Fria																						1.05							T.			1.05
Congress	Hassayampa			T.										.02	.87	.08	.24	.58				.69		T.	2.15		.25		.02		.32		5.22
Courtland	White				.02					.16			.25	.35	.30							.30	.12			.20		.47					2.17
Dos Cabezos	Desert													.44	.35								2.15		.15	.67	.12	.18					4.06
Douglas	Sonora				.06	T.		T.		.17		.04		.08	.11	T.	.06	T.				.06	.97		T.	.16		.14	.07			.60	2.52
Dudleyville	Gila																																
Fairbank	San Pedro				.08										.42	.80							2.60	.04				.55	.05	.03	.25		4.82
Flagstaff	Little Colorado			T.						.06	T.			T.	.06	.30	.01	.26			T.	T.	.04	.38	.30		.48		.60	.04	.06	.48	3.07
Florence	Gila												T.	.25			.50						1.40										2.15
Fort Apache	Salt												T.	.60	.25									.20	T.	.40	.10	.26	.18	.08	T.		2.07
Fort Huachuca	San Pedro				T.	T.	T.				.35	T.		.25	.50	T.								.70	T.	T.			.40	T.	T.	1.20	3.40
Fort Mohave	Colorado														.06				.12														0.18
Gilabend	Gila																.10	.13		.10			10										0.43
Globe	Salt													.06	.50	.01	.02																2.18
Grand Canyon	Colorado																																
Greer	Little Colorado					T.					.10	.08	.12	.20	.50	.05	T.	.10	T.	T.	.12	T.	.04	.03	T.		.10	.30	.40	T.	.50	.30	2.94
Hereford	Gila										.03			.44	.21		.41						1.19	.08	.20	.06			1.15	.05			3.82
Holbrook	Little Colorado													.35	.28	.22	.28	.15	T.	T.		.02	.06	.42	T.	T.		.48	.37				2.63
Intake	Salt														.60									.30			.20		.35				1.45
Jerome	Verde														.15			.31									.41	.07		.42	.26		1.62
Keams Canyon	Little Colorado									.01				.03		.16	.03	T.	T.	.10			.20	.06	.78	.56	.58	.35		.05	.93		3.84
Kingman	Colorado			.18									T.	.32				.25		T.					T.			.10	T.				0.85
Lewis Springs	San Pedro										T.			.11	.85	T.		T.				T.		1.29		.04	.10		.06		.02		2.47
Maricopa	Gila																																
Mesa	Salt														T.		.63	T.		T.		T.	.25						T.		T.		0.88
Mohawk Summit	Gila																										T.						T.
Naco	San Pedro													.02			.77	.48					.38	.45	.08		.14			.32			2.64
Natural Bridge	Verde												T.		.82									.15		.20			.68		.10		1.95
Nogales	Santa Cruz																																
Oracle	San Pedro																																
Osborn	...do					T.			.02	T.	T.	T.	T.	.20	.43	.28	.08						2.30		.04		.02		.06				3.43
Paradise	Desert										T.		.06		.02	.01							2.00		.02	.07				.09			2.27
Parker	Colorado														.22				.03														0.52
Payson	Verde														.29		T.	T.		T.		T.	.35		.14		.25		T.	T.		T.	1.03
Phoenix	Salt													T.	.02	T.	.30					T.		.29				.03		.01		0.65
Pinal Ranch	...do													.31	.33			.08						1.10			.08					.08	1.98
Pinto	Little Colorado																																
Prescott	Hassayampa									.05				T.	.20	.02	.33	.05	T.	T.			.52	.14	T.		.17		.15	.15	.11	T.	1.89
Quartzsite	Colorado													.05	.02		.08	.56									.10						0.81
Redrock	Santa Cruz												.04	.07	T.	.02		.18		T.		T.	.68					.10					1.09
Roosevelt	Salt												T.	T.	.29	T.	T.			T.			.13	.79	T.	T.		T.	T.		T.		1.21
Sacaton	Gila																							.65									0.65
St. Johns	Little Colorado											.07			.15				.90				.12			.21	.90						2.35
St. Michaels	...do			T.	T.	.15					T.	T.	T.		.30	.36	T.	T.	T.	T.	T.	T.	.10	T.	1.00	.44	.46	T.	T.	.10	.10	T.	3.01
Salome	Colorado				T.									T.	.74							.05			T.					T.			0.79
San Carlos	Gila														.65	.25							.27	.07			.30						1.54
San Simon	...do											.10														.50		25					0.85
Seligman	Verde																																
Sentinel	Gila																.25	.10					.05						.12				0.52
Showlow	Little Colorado																																
Silverbell	Santa Cruz												.08	.20	.10	.15		.20						.60		.25		43	1.10				3.11
Snowflake	Little Colorado													.10				.20		T.			.32	.25	.16	.14	.50	T.	T.		T.		1.67
Supai	Colorado																																
Tempe	Salt																.34	.01						.22							.10		0.67
Thatcher	Gila										T.	T.	T.	.02	.30													.05	.05	.40			0.82
Tombstone	San Pedro													28	1.13		.04					.06	2.60		.07			.06			.45	.22	4.91
Truxton	Colorado													24	.38				.02						.01				.37				1.02
Tuba	Little Colorado		T.	.06							T.			.05	.10	.44	T.		T.	.02		T.	T.	T.	T.	T.	.10	T.		.12			0.89
Tucson	Santa Cruz												T.	.34	T.		.54	.16	T.			1.35	1.82	T.									4.21
Vail	...do												.16				.38					1.22	.95					.02					2.73
Walnut Grove	Hassayampa														.60				T.	T.			.27			.16			.25	.15	1.00	.67		3.10
Wickenburg	...do														.06		.42					T.		.34					.10		.14		1.06
Willcox	Desert											.46	.08		.80							.04	.88					19					2.45
Williams	Colorado				.08										.16	.92	.10				T.					.31	1.40			.04				3.01

TABLE 2.—*Daily precipitation for July, 1910. District No. 9*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Arizona—Cont'd.																																	
Winslow	Little Colorado													.20				.30						T.	.10								0.60
Yarnell	Hassayampa		T.	T.	T.	T.									T.	T.	.62	1.56	.40	.51				.17		.50		.20	.04		.02		4.02
Yuma	Colorado			T.	T.									.08	.74		.02										T.						0.84
Nevada.																																	
Caliente	Colorado													.04					.06						.04		.02			.05	.02		0.23
Las Vegas	do														.20		.03	T.		.15						.15			.10				0.65
Logan	do														.05				T.										.03		.03	T.	0.11

TABLE 3.—*Maximum and minimum temperatures at selected stations, July, 1910. District No. 9, Colorado Valley.*

Date.	Wyoming.				Colorado.										Utah.										New Mexico.			
	Daniel.		Green River.		Durango.		Grand Junction.		Gunnison.		Meeker.		Steamboat Springs.		Emery.		Fort Duchesne.		Elite.		Moab.		St. George (Experiment station).		Fort Bayard.		Fort Wingate.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	80	33	89	42	83	45	88	59	80	35	81	39	81	34	82	42	92	46	95	61	93	51	100	57	90	53	84	54
2...	81	32	90	49	87	44	94	62	82	33	85	40	85	33	83	41	95	46	101	62	98	52	99	61	94	51	87	48
3...	80	32	90	53	85	46	90	67	84	30	85	40	84	30	78	55	93	45	92	68	92	51	98	64	93	55	88	50
4...	72	47	75	54	82	51	80	61	86	34	75	42	75	34	69	51	85	45	87	66	90	60	94	64	94	51	82	63
5...	70	33	79	44	81	48	88	59	88	37	75	42	75	34	78	56	90	50	96	61	93	51	99	50	93	50	80	51
6...	74	32	86	38	86	46	90	61	86	39	79	35	80	31	79	39	93	40	99	66	97	61	102	50	94	60	87	51
7...	76	31	89	41	88	48	92	59	84	40	83	40	83	31	86	45	96	45	104	67	98	53	106	50	92	63	88	54
8...	76	33	90	38	90	48	95	62	81	35	84	40	85	31	89	50	97	46	105	66	101	52	107	52	90	61	88	53
9...	73	41	82	50	86	49	94	63	84	40	82	38	80	33	85	51	94	46	104	73	99	60	106	59	92	61	86	65
10...	76	35	88	50	87	48	94	65	82	36	84	38	82	36	82	52	96	47	102	72	100	63	106	64	88	59	86	59
11...	80	35	88	55	87	48	90	62	79	42	80	40	83	34	80	46	99	50	106	75	97	63	106	67	80	48	86	52
12...	76	36	89	53	89	48	92	61	82	41	84	46	85	35	82	51	91	46	103	71	98	58	108	62	86	52	87	54
13...	81	41	93	50	85	52	96	64	80	42	83	40	84	40	85	56	97	48	103	78	101	64	102	77	85	53	76	54
14...	85	37	95	51	85	51	91	66	86	39	82	46	90	39	80	51	98	47	97	77	96	61	86	69	85	5	78	59
15...	78	55	88	60	88	53	92	68	84	38	86	50	86	44	82	56	96	62	99	77	95	63	93	66	85	55	81	52
16...	85	47	93	50	89	55	95	64	87	40	85	51	87	53	83	49	96	57	96	71	100	64	101	68	83	57	88	55
17...	80	45	94	61	90	53	96	67	85	42	87	56	86	46	82	49	97	59	105	71	103	61	104	67	89	61	88	48
18...	83	46	96	54	88	56	99	72	87	40	80	49	88	42	85	56	102	54	102	74	94	64	104	68	90	55	87	58
19...	81	50	88	61	94	52	99	68	90	45	88	53	90	44	89	59	101	61	107	74	103	61	106	72	90	60	88	54
20...	82	46	95	55	93	60	100	71	87	46	89	49	91	46	90	58	100	62	110	81	105	64	106	64	89	56	92	62
21...	84	40	90	54	91	56	98	70	82	48	87	50	87	45	86	50	97	54	108	78	103	62	107	64	91	62	92	60
22...	80	38	93	68	92	56	101	70	87	40	88	47	88	39	80	55	100	55	108	83	102	65	102	7?	89	56	90	58
23...	72	35	86	61	88	55	97	72	88	49	85	47	85	31	88	52	96	53	106	84	101	68	102	68	90	60	86	60
24...	80	31	93	52	85	54	97	62	90	47	87	40	90	29	89	56	97	46	108	71	103	54	100	72	91	62	82	57
25...	84	36	98	57	89	56	100	59	89	44	89	42	92	31	82	50	101	47	105	81	102	59	99	73	90	52	80	55
26...	80	40	93	60	91	54	96	65	88	49	90	49	92	38	85	51	99	56	103	82	103	68	101	73	91	55	79	50
27...	80	45	90	66	87	58	94	68	85	50	83	40	87	50	81	56	91	61	100	80	103	69	92	77	88	57	78	55
28...	82	53	84	64	83	55	86	67	85	48	80	53	76	51	85	52	90	58	98	77	93	60	110	67	84	50	80	53
29...	80	46	84	57	84	52	88	65	74	45	81	48	79	53	90	56	85	56	101	74	97	61	101	70	88	52	79	54
30...	80	41	89	53	78	58	88	66	78	52	81	40	80	40	86	51	90	55	98	79	93	64	101	66	93	54	73	54
31...	83	40	89	57	78	54	84	62	80	50	79	42	84	42	89	52	93	54	98	73	91	63	97	66	92	53	80	51
Mns	79.2	39.7	89.2	53.5	86.7	51.9	93.0	64.7	84.2	41.8	83.5	44.3	84.5	38.7	83.5	52.1	95.1	51.5	101.3	73.3	98.2	60.4	101.1	65.2	89.3	55.8	84.1	54.9

Date.	Arizona.																						Logan, Nev.	
	Bisbee.		Flagstaff.		Fort Apache.		Grand Canyon.		Parker.		Phoenix.		Prescott.		St. Michaels.		San Carlos.		Tucson.		Yuma.			
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	89	63	82	36	94	46	.....	.....	112	62	104	68	88	46	82	49	106	56	104	64	105	64	104	60
2	94	66	83	40	95	47	.....	.....	111	62	107	69	89	46	89	53	109	53	108	61	110	67	105	61
3	94	67	80	48	95	51	.....	.....	115	67	105	77	87	54	90	63	107	64	107	69	107	73	103	85
4	92	69	76	45	93	55	.....	.....	110	62	104	75	87	56	88	64	107	67	105	72	106	69	100	55
5	91	67	81	48	94	57	.....	.....	112	60	106	75	87	59	85	53	108	65	109	71	111	79	103	56
6	94	69	85	42	97	56	.....	.....	117	65	111	74	93	55	89	49	110	64	108	70	114	72	107	57
7	95	69	89	43	98	56	.....	.....	109	66	111	77	95	54	91	47	112	65	110	72	115	76	110	60
8	93	69	87	47	95	55	.....	.....	109	66	108	77	94	58	94	50	109	63	108	74	108	83	109	60
9	95	69	82	49	94	56	.....	.....	114	67	107	77	91	61	90	61	106	74	106	76	110	73	110	63
10	86	66	81	45	92	58	.....	.....	116	67	105	73	91	57	86	57	107	63	104	75	110	72	110	68
11	89	62	86	46	94	57	.....	.....	118	67	108	76	93	58	90	51	108	71	106	72	112	70	112	68
12	89	66	87	45	95	58	.....	.....	114	66	109	73	95	61	92	61	106	70	107	70	112	70	110	65
13	86	63	77	58	87	59	.....	.....	110	67	95	81	85	64	87	56	98	75	97	69	100	74	107	71
14	78	62	64	56	93	60	.....	.....	96	67	91	72	72	61	80	57	92	67	98	69	92	75	90	70
15	81	62	75	48	84	60	.....	.....	102	68	99	77	81	60	86	56	84	69	96	70	100	77	100	68
16	82	62	81	52	91	57	.....	.....	104	67	105	69	88	56	90	58	105	73	107	68	106	77	104	72
17	86	62	83	50	91	60	.....	.....	104	67	102	72	90	56	91	59	105	69	104	70	105	76	109	73
18	87	62	84	50	93	58	.....	.....	111	67	109	74	91	56	90	57	106	72	105	62	106	79	108	74
19	89	66	86	53	91	64	.....	.....	116	66	107	82	94	64	95	57	108	71	106	74	111	80	110	69
20	90	65	91	53	95	57	.....	.....	117	66	111	79	97	57	96	55	108	70	106	71	116	81	112	72
21	90	67	89	55	93	67	.....	.....	113	67	103	84	95	57	97	60	110	71	103	68	102	83	114	70
22	90	62	83	61	86	63	.....	.....	107	67	100	78	82	60	95	55	106	72	95	66	104	84	106	77
23	77	61	80	56	85	60	.....	.....	101	67	91	73	82	62	88	61	104	70	88	66	94	82	105	73
24	79	61	75	57	87	59	.....	.....	107	67	96	79	78	63	90	59	103	69	90	72	103	79	101	80
25	82	61	78	54	90	56	.....	.....	104	68	100	78	84	57	84	58	102	72	96	73	105	75	105	76
26	84	64	80	55	88	59	.....	.....	106	66	100	80	83	61	83	61	100	68	98	71	95	77	106	80
27	79	65	76	50	85	57	.....	.....	106	68	101	79	83	57	83	58	98	68	96	71	104	74	103	76
28	79	59	74	52	85	58	.....	.....	107	66	99	74	81	59	80	58	97	69	94	71	104	80	105	71
29	81	64	77	54	85	55	.....	.....	106	68	102	74	85	61	87	58	101	66	96	71	106	76	104	76
30	82	65	75	50	84	61	.....	.....	111	70	103	78	83	57	82	59	97	67	97	74	109	78	107	72
31	85	65	78	50	90	56	.....	.....	110	72	104	75	86	54	83	58	106	67	100	69	111	78	103	74
Means..	86.7	64.5	80.8	49.9	90.9	57.4	.....	.....	109.5	66.4	103.3	75.8	87.4	57.6	88.2	56.7	104.0	67.7	101.7	70.0	106.2	75.9	105.9	69.4

Climatological Data for July, 1910.

DISTRICT No. 10, GREAT BASIN.

ALFRED H. THIESSEN, District Editor.

GENERAL CLIMATOLOGICAL CONDITIONS.

The month of July was characterized by remarkably steady temperatures which averaged above normal for the district. No general excessively high temperatures were reported, and there was no frosty weather, except at a few of the more elevated stations. The precipitation averaged above normal, and the drought, which had extended from March 1, was broken during the month when good showers fell in most localities. These showers were sufficient to benefit vegetation, and raise the water to some extent in the streams. There was generally sufficient water for irrigation, but at the end of the month it was getting low and was much lower than it had been for many years.

TEMPERATURE.

This month takes rank as one of the warmest months of its name on record, the mean being 72.0°. In Utah the average temperature for the month was exceeded in only three previous years, and in Nevada in only five. The mean temperature ranged from 63.6° at Evanston in southwestern Wyoming to 83.2° at Jean in southern Nevada. The highest mean temperatures occurred in the valleys of Utah and in western Nevada, and the lowest means were confined to the more elevated portions of the district. The record for the month shows a remarkable regularity in temperature, there being no period of widespread high or low temperatures. As a rule, the first six days of the month were coolest. The temperature then rose gradually, with some local exceptions, culminating in two periods of high temperature, the 18th and 25th.

The highest temperature for the district was 110° on the 11th at Jean in southern Nevada. Other high maximum temperatures were 108° on the 26th, at Battle Mountain, Nev., and 105°, on the 14th, at Corinne, Utah. There were 22 stations which reported maximum temperatures of 100° or more; while only three stations reported maximum temperatures below 90°.

Excepting at five stations, the minimum temperatures occurred on the first six days of the month. Only 11 stations reported minimum temperatures of 32° or below. The lowest temperature recorded was 28° on the 5th at Cobre and Potts, Nev.

PRECIPITATION.

As a rule, the precipitation in July is very light in the Great Basin; but during the present month it was unusually heavy in most localities. The greatest amounts fell along the western slope of the Wasatch Mountains in Utah and at scattered places in Nevada. The greatest excesses occurred in southern Utah, and the greatest deficiencies in the Oregon area and in northern Nevada.

The greatest monthly amount was 3.41 inches at Panguitch Lake, Utah, and the greatest 24-hour amount 1.85 inch on the 13th at Jean, Nev. One of the heaviest showers on record at Reno, Nev., occurred on the 17th, where from 4:20 p. m. to 7 p. m. 0.82 inch fell; in 5 minutes 0.15 inch, and in 30 minutes 0.54 inch fell.

The first decade was very dry, only a few local showers having been recorded. The wettest periods of the month centered about the 15th and the 27th, except in the California area, where most of the rain fell on the 17th, 18th, and 19th; and in the Oregon area no rain fell after the 21st.

MISCELLANEOUS.

Sunshine during the month was abundant throughout the district. At Salt Lake City, Utah, 73 per cent of the possible amount was recorded.

There were, on the average, 4 rainy, 15 clear, 10 partly cloudy, and 6 cloudy days.

The highest wind reported was 56 miles an hour from the southwest on the 3d at Modena, Utah.

INFLUENCE OF SOIL MULCHES IN CHECKING EVAPORATION.

By DON H. BARK, Office of Irrigation Investigations, Boise, Idaho.

Irrigation water has always been subject to enormous losses before it reaches the farmers' fields, and it has long been known that but a small part of the amount actually diverted from the streams is used beneficially by the crops. But how to cut down this loss and thus make our available water supply cover and produce maximum crops on more land has long been the problem. These losses occur from seepage and evaporation from the ditches before the water reaches the field and from evaporation and waste afterward. The Irrigation Investigation Division of the United States Department of Agriculture has been studying these various losses and the best means of eliminating them for the past ten years, and the experiment herein described is given in detail, along with many others, in Office of Experiment Station Bulletin No. 177.

In conducting experiments on evaporation losses from the soil, the greatest difficulty is in securing natural normal conditions. Laboratory tests with small amounts of soil are easily made, but the evaporation from soils and the artificial surroundings of a laboratory as regards temperature, humidity, and wind movement are likely to be quite different from that from similar soils in the open, so it was decided at the outset that all experiments along these lines should be carried out with large amounts of soil and in the open field.

The plan followed in determining the rate and amount of evaporation from the soil was to remove about 1,200 pounds of soil from the field and place it in a water-tight cylindrical vessel as nearly as practicable in its natural position, and by periodical weighings to determine the loss of moisture from it. The equipment which was used consists of 8 water-jacketed galvanized iron tanks 2 feet in diameter and 4 feet high. The outer tanks are set in the ground in a typically located spot and the inner tanks are carefully filled with 4 feet of soil compacted to its normal density by tamping, after which they are weighed and lowered into the outer tanks which have previously been partly filled with water.

Water equivalent to 4 or 6 inch irrigation is then applied to each tank and the influence of wind, shade, mulches, and cultivation upon evaporation are carefully determined by figuring these factors and weighing the tanks twice each week.

Tank equipments are now installed and have been operated for the past two years in the following places: Bozeman, Mont.; Williston, N. Dak.; Reno, Nev.; Sunnyside, Wash.; Davis, Cal.; and Caldwell, Idaho. These localities cover a wide range of climatic conditions, and with an equipment flexible enough to carry on various experiments in the evaporation from the soils a large number of valuable results are looked for in the next few years. The results which were obtained up to January, 1907, are given in Office of Experiment Station Bulletin No. 177, and other bulletins will be issued later on giving the results from a wider range of experiments which have been carried on since that time. The experiment herein described is taken from that bulletin and was carried on at Riverside, Cal., during June and July, 1907, for the purpose of determining the amount of evaporation from orchard soils with different depths of soil mulch, and to compare the effect of different depths of mulch upon the evaporation. Fourteen water-jacketed tanks were

used, being filled with soil from block 58 of the Arlington Heights Fruit Company Canal, and after being put into position were divided into the following groups:

First group, Nos. 1 and 3, no mulch.
Second group, Nos. 2, 4, and 10, 4-inch mulch.
Third group, Nos. 5, 7, and 11, 8-inch mulch.
Fourth group, Nos. 6, 8, 12, and 14, 10-inch mulch.

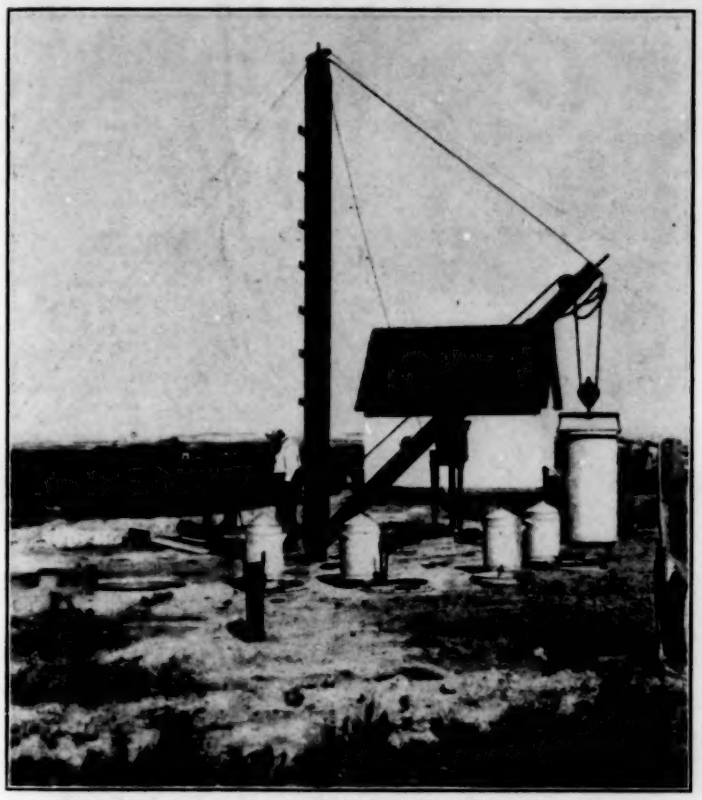


FIG. 1.—Soil evaporation apparatus, Caldwell, Idaho.

An amount of water equal to a 6-inch irrigation was then applied to each one of the tanks. In the first group the water was applied on the surface of the soil, while in the remaining groups the mulch was not put on until after the water was applied. When the soil in the tanks had absorbed the water a dried soil mulch of the required thickness was spread over the top and the initial weight of the tanks was obtained. All tanks were weighed five times during the experiment, which lasted 14 days. The results showed that the comparative losses in 14 days after irrigation, from a soil without mulch and from soils protected by 4, 8, and 10 inch mulches, were in the ratio of 45.6, 12.9, 5.3, and 1. They also showed that the large loss from unprotected soils which had been irrigated as well as the comparatively small losses from soils covered by a mulch take place, for the most part, during the first two days after the water is applied, and the decrease in evaporation is very rapid as the surface soil dries out. Although the amount of water evaporated from the different tanks was quite different for any one day, yet the evaporation from all four sets of tanks obeyed the same law in the rapid rate of decrease toward the end of the experiment, which shows more clearly than words can express the very urgent necessity of applying the water at such depths that the surface soil will remain dry in order to lessen the waste of water by evaporation.

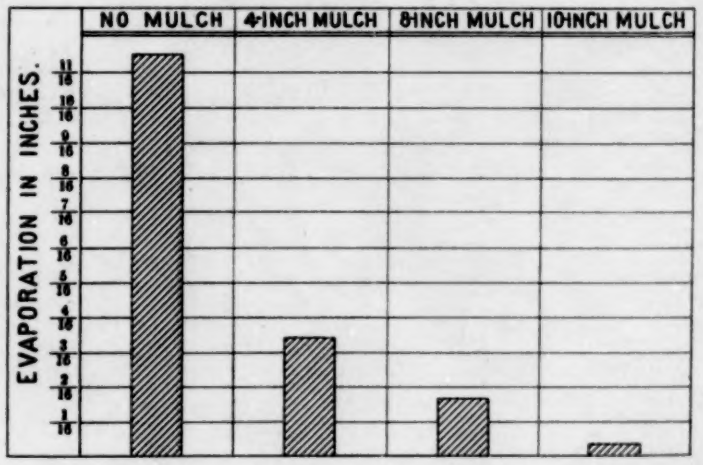


FIG. 2.—Diagram showing evaporation from soils protected by soil mulches of different depths.

TABLE 1.—*Climatological data for July, 1910. District No. 10, Great Basin.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Wyoming.																				
Border	Uinta	6,085	7	65.0	+ 2.9	93	25	32	1	54	0.18	− 0.19	0.13	0.0	2	14	8	9	w.	S. W. Condron.
Cokeville	do	6,204	0	64.8		96	17†	31	6	56	0.95		0.76	0.0	5	20	8	3	w.	E. J. Tuckett.
Evanston	do	6,860	13	63.6	+ 1.7	87	18†	37	5†	44	1.35	+ 0.59	0.35	0.0	8	16	14	1	sw.	Frank Tucker.
Idaho.																				
Geneva	Bear Lake		3								0.73		0.40	0.0	2	29	2	0		F. W. Boehme.
Grace	Bannock	5,400	4	73.0		96	18†	39	5	48	1.11		0.34	0.0	9	18	7	6	s.	Cyril B. Dickson.
Oxford	do	4,750																		Edwin Smith.
Paris	Bear Lake	5,946	16	64.7	+ 1.1	91	19	35	5	52	1.10	+ 0.42	0.35	0.0	9	16	15	0	w.	John Norton.
Stone	Oneida	4,520																		Thos. W. Roe.
Weston	do	4,460	13	70.2	+ 2.1	96	18	37	5	47	0.93	+ 0.34	0.63	0.0	4	22	8	1	sw.	Wm. Chatterton.
Utah.																				
Alpine	Utah	4,900	13								0.39	− 0.28	0.30	0.0	3	13	16	2		George Stevens.
Annabella	Sevier	5,250	5																	J. W. Fairbanks.
Beaver	Beaver	6,000	7	70.9		91	24	46	5	37	2.08		0.66	0.0	11	10	16	5	sw.	James Connell.
Black Rock	Millard	4,872	10	72.4		99	20†	38	5	57	1.99	+ 1.58	0.83	0.0	4	6	20	5		W. D. Livingston.
Blacksmiths Fork	Cache		1																	Forest Supervisor.
Card Canyon	do		1																	Do.
Castle Rock	Summit	6,244	7																	David Moore.
Cedar City	Iron	5,750	5								0.12		0.08	0.0	3					Parley Dalley.
Corinne	Boxelder	4,240	40	76.8	− 2.2	105	14	42	5	56	0.72	+ 0.29	0.72	0.0	1	15	13	3		A. C. Murphy.
Deseret	Millard	4,541	16	74.7	+ 2.7	99	19	43	6	50	0.38	+ 0.23	0.15	0.0	4	13	11	7	s.	S. W. Western.
Enterprise	Washington	4,270	2								0.51		0.27	0.0	4	8	11	12	s.	John Day.
Farmington	Davis	4,267	10	73.4	+ 0.9	96	13†	46	6	43	1.66	+ 1.29	0.78	0.0	4	19	9	3	sw.	Charles Boylin.
Fillmore	Millard	5,100	20	76.2	+ 0.9	102	24	43	5	46	1.84	+ 1.21	1.39	0.0	8					J. J. Starley.
Friese Summit	Wasatch										1.27		0.91	0.0	4	12	17	2	nw.	Victor A. Friese.
Frisco	Beaver	7,318	16	75.0	+ 1.2	98	24	50	6	40	0.96	+ 0.20	0.28	0.0	5					E. R. Smyth.
Garland	Boxelder		1	73.0		97	19	42	23	45	0.41		0.27	0.0	3	14	9	8	s.	Harry B. Shaw.
Garrison	Millard		7								1.33		0.59	0.0	4	3°	5s	8°	s.	E. M. Smith.
Government Creek	Tooele	5,277	10	74.4	+ 1.3	96	25	43	5	37	0.95	+ 5.1	0.40	0.0	6	14	14	3	s.	Walter James.
Grantsville	do		1																	Allen J. Fraser.
Grouse Creek	Boxelder										0.40		0.15	0.0	5	8	18	5	sw.	Philip Paskett.
Heber	Wasatch	5,606	17	67.4	+ 1.5	96	25	35	1†	58	1.01	+ 0.21	0.55	0.0	4	16	14	1	s.	John Crook.
Henefer	Summit	5,301	11	67.1	+ 2.3	95	18	32	6	57	2.66	+ 2.09	1.40	0.0	5	13	13	5	w.	Wm. Brewer.
Ibapah (near)	Tooele	7,500	5			95*	24				0.65		0.35	0.0	4	12*	17*	1*	w.	J. S. Lawton.
Ibex	Millard																			John J. Watson.
International	Tooele	5,370	1	77.1		97	25	51	5	33	1.24		0.76	0.0	5	19	8	4	se.	I. S & R. Co.
Josepa	do																			James Mackie.
Kanosh	Millard	5,250	2								1.09		0.35	0.0	8					Geo. Crane.
Kelton	Boxelder	4,230	32	73.0	− 4.4	97	20†	41	5	45	0.65	+ 0.29	0.65	0.0	2	10	20	1	sw.	F. W. Klock.
Levan	Juab	5,010	20	73.8	+ 2.4	98	28	46	6	43	0.26	− 0.34	0.18	0.0	4	16	12	3	sw.	Wm. Brown.
Logan	Cache	4,507	19	75.3	+ 3.9	97	25	48	4	37	0.79	+ 0.37	0.49	0.0	2				n.	Utah Exp. Station.
Lucin	Boxelder	4,504	6	76.2		101	13†	45	5†	54	T.		T.	0.0	0	12	14	5		C. J. Burke.
Manti	Sanpete	5,575	16	66.1	− 4.4	83	23	50	1†	27	0.79	+ 0.22	0.19	0.0	7	5	3	23		J. M. Anderson.
Marion	Summit	6,750	6								0.86		0.23	0.0	9	7°	2°	17°	nw.	Jas. Woolstenhulme.
Marysvale	Piute	6,280	11	68.9	+ 2.6	94	25	39	1†	49	0.62	− 0.37	0.20	0.0	8	10	5	16	s.	John W. Henry.
Meadowville	Rich	6,200	11	66.6	− 1.6	92	18	36	1	49	0.50	+ 0.01	0.25	0.0	2	25	3	3	w.	J. S. Moffat.
Milford	Beaver	4,962	6	74.2		101	19	45	1†	51	0.50		0.50	0.0	1	9	1	21	sw.	J. C. Manuel.
Millville	Cache	4,848	15								0.46	+ 0.08	0.26	0.0	3	14	17	0	s.	Fred Yeates.
Minersville	Beaver	5,070	13								1.19	+ 0.62	0.43	0.0						Geo. Roberts, sr.
Modena	Iron	5,479	10	72.1	+ 2.4	96	21	44	6	46	0.91	+ 0.60	0.43	0.0	10	9	15	7	w.	U. S. Weather Bureau.
Morgan	Morgan	4,280	7																	W. Visick.
Moroni	Sanpete	5,519	2	72.0a		97a	25	49a	1†	46a	0.88		0.33	0.0	8	10	13	8	sw.	B. F. Eliason.
Mount Nebo	Utah	4,650	9	79.8		100	13†	58	24	35	0.98		0.33	0.0	4	20	10	1	s.	D. C. Walkey.
Nephi (near)	Juab	6,059	7								0.33		0.15	0.0	5	8	22	1	sw.	S. Boswell.
Oak City	Millard	4,900	6	78.8		103	25	47	5	43	1.06		0.32	0.0	8	11	14	6		Peter Nielson.
Ogden	Weber	4,310	9	76.0		94a	13†	47a	5	32a	0.26		0.12	0.0	3	23a	5a	2a	nw.	Enoch Farr.
Panguitch Lake	Garfield	9,000	1								3.41		0.98	0.0	9	4	16	11	s.	Jas. E. Prince.
Park City	Summit	7,800	13																	Irvin Evans.
Parowan	Iron	5,970	19	70.6	− 0.5	93	21	46	5	36	2.18	+ 1.24	0.71	0.0	8	16	0	15		S. M. Matheson.
Payson	Utah	4,637	7								0.50		0.23	0.0	5	9	13	9	sw.	D. L. Coombs.
Pinto	Washington	5,907	13	67.4	+ 0.8	92	19†	33	1†	48	2.50	+ 1.45	0.55	0.0	7	8	10	13	s.	J. H. Harrison.
Promontory	Boxelder	4,913	39																	F. C. Houghton.
Provo	Utah	4,532	18	76.0	+ 2.9	101	13†	48	6	48	0.58	+ 0.35	0.40	0.0	3	6	25	0	n.	James A. Oliver.
Randolph	Rich	6,442	7								1.01	+ 0.23	0.27	0.0	8	20	10	1		William Rex.
Richfield	Sevier	5,350	20	71.4b		97b	22	42b	1	50b	1.00	+ 0.45	0.36	0.0	7					Joseph J. Jensen.
Saltair	Salt Lake	4,220	7	76.8		92	17	56	6	27	0.92		0.37	0.0	3					E. J. Bench.
Salt Lake City	do	4,360	37	77.6	+ 1.4	97	19	54	6	35	0.52	− 0.02	0.19	0.0	8	13	16	2	nw.	U. S. Weather Bureau.
Scipio	Millard	5,260	15	68.8	− 1.2	95	25	36	5	53	0.62	− 0.02	0.17	0.0	7	8	9	14	sw.	Thos. Memmott.
Sevier Mine	Sevier										1.87		0.82	0.0	10	10	21	0		Max Krotki.
Silver City	Juab	6,127									0.22		0.15	0.0	4	7	23	1	s.	J. L. Stark.
Spanish Fork Canyon	Utah	4,585	1	75.8		98	25	51	6	39	0.43		0.43	0.0	1	18	2	11		U. S. Reclamation Service.
Strawberry Valley	do		4	64.3		88	25	36	6	42	0.71		0.20	0.0	8	11	16	4		Do.
Thistle	do	5,075	18																	J. Thorgeirson.
Tooele	Tooele	4,900	14	74.0	+ 0.4	96	13	49	6	39	1.35	+ 0.89	0.58	0.0	5	7	8	16	n.	E. A. Bonelli.
Utah Lake Pumping Sta	Utah	4,500	5																	W. A. Knight.
Woodruff	Rich	6,500	12	66.8	+ 6.0	92	25	31	23	54	0.15	− 0.29	0.05	0.0	4	14	9	8	sw.	J. Sidney Pusey.
Oregon.																				
Burns	Harney	4,157	20	68.9	+ 3.1	100	14	37	1	56	0.03	− 0.18	0.03	0.0	1	21	10	0	w.	J. C. Welcome, jr.
Christmas Lake	Lake	4,320	2	63.8		97	13	30	5	55	0.66		0.37	0.0	3	16	10	5	n.	John C. Green.
Paisley	do	4,500	6	69.6		95	13	42	4	41	0.30		0.20	0.0	2	25	3	3	sw.	E. C. Woodward.
"P" Ranch	Harney	4,300		67.4		95	12	38	23	52	0.12		0.12	0.0	1	20	11	0		J. P. Jefferson.
Silver Lake	Lake	4,700	14								0.70	+ 0.20	0.43	0.0	2					Wm. Holder.
California.																				
Al Tahoe	Eldorado	6,235																		A. R. Sprague.
Glen Alpine Springs	do	6,850																		R. W. Porteous.
Tahoe	Placer																			Robert M. Watson.
Truckee	Nevada	5,819	39	64.6	− 0.8	94	8†	34	3	53	0.00	− 0.19	0.00	0.0	0	31	0	0	sw.	Southern Pacific Co.
Nevada.																				
Aurora	Esmeralda																			J. I. Cain.
Austin	Lander	6,594	21																	James L. Pelton.
Battle Mountain	do	4,843	39	74.4	− 0.8	108	26	40	5	58	0.51	+ 0.38	0.51	0.0	1	21	5	5	w.	Southern Pacific Co.
Beowawe	Eureka	4,905	39	72.2	− 5.0	100	19†	38	4	50				0.0		25	5	1	s.	Do.
Carlin	Elko	5,232	39	72.9	+ 2.3	100	25†	30	6	70	0.43	+ 0.32	0.30	0.0	2	29	0	2		Do.
Carson Dam	Churchill	4,032	3	76.4		98	25	45	5	41	T.		T.	0.0	0	23	8	0	w.	U. S. Reclamation Service.
Cherry Creek	White Pine	6,450	2	71.0		97	24	39	5	45	0.46		0.33	0.0	7	8	21	2	w.	J. H. Leishman.
Clover Valley	Elko	6,000	10	71.2		96	13†	44	2†	49	0.40		0.19	0.0	3	11	17	3		I. F. Wiseman.
Cobre	do		1	71.8	− 1.7	102	11†	28	5	73	0.05	− 0.11	0.03	0.0	2	19	4	8	ne.	Southern Pacific Co.

TABLE 1.—*Climatological data for July, 1910. District No. 10*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Nevada—Cont'd.																				
Columbia	Esmeralda	5,750	3	75.0[a]	.....	97	8†	40	4	40[a]	1.09	.....	0.48	0.0	5	18	11	2	se.	A. Booth.
Dutton	Elko	5,100	2	69.2	.....	96	13†	36	23	57	0.55	.....	0.55	0.0	1	10	20	1	w.	Golconda Cattle Co.
Elko	do	5,342	39	67.6	− 3.3	95	12†	34	3	56	1.71	+ 1.45	1.03	0.0	2	11	13	7	ne.	Southern Pacific Co.
Ely	White Pine	6,421	19	76.4	+ 3.4	95	23	46	16	44	0.94	+ 0.41	0.60	0.0	3	25	4	3	w.	G. C. Hunting.
Eureka	Eureka	6,500	7	70.2	− 1.9	93	7†	37	5	46	2.62	+ 2.08	0.92	0.0	10	10	6	15	s.	Clay Simms.
Fallon	Churchill	3,965	5	74.6	+ 1.1	103	10	38	4	48	0.05	− 0.05	0.03	0.0	2	22	2	7	w.	U. S. Experiment Farm.
Fernley	Lion	4,200	2	78.5	+ 0.6	103	25	44	4	41	0.19	− 0.12	0.19	0.0	1	21	5	5	w.	Mrs. A. J. Rankin.
Gardnerville	Douglas	4,830	10	69.4	+ 1.3	99	7	30	4	54	2.50	+ 2.38	1.00	0.0	3	16	12	3	e.	Wm. Dangberg.
Geyser	Lincoln		6																	Mrs. J. F. Wambolt.
Glenbrook	Douglas		1																	C. C. Henningsen.
Golconda	Humboldt	4,697	31	73.3	− 3.0	101	13	42	14	49	0.25	+ 0.18	0.25	0.0	1	26	4	1	s.	Southren Pacific Co.
Halleck	Elko	5,631	17	76.8	+ 7.1	100	24	47	4	45	0.34	− 0.06	0.26	0.0	2	24	5	2	.....	Do.
Jean	Clark	2,074	2	83.2	.....	110	11	58	5	42	2.05	.....	1.85	0.0	2	26	3	2	sw.	Salt Lake Route.
Leetville	Churchill	4,020	3	76.6	.....	103	10	44	5	42[b]	0.30	.....	0.30	0.0	1	.....	.....	.....	w.	U. S. Reclamation Service.
Lewers Ranch	Washoe	5,500	22	69.6	+ 1.9	98	9	32	4	45	0.15	− 0.01	0.15	0.0	2	18	11	2	.....	Ross Lewers.
Lovelock	Humboldt	3,977	7	72.4	− 4.1	102	4†	36	14	63	T.	− 0.13	T.	0.0	0	.....	.....	.....	.....	J. S. Case.
McAfees Ranch	Esmeralda	4,835	6																	C. H. Rodenkirch.
Millett	Nye		2	69.0	.....	95	23†	36	4	50	1.95	.....	0.65	0.0	6	14	7	10	w.	Fred J. Jones.
Mina	Esmeralda	4,600	3	78.1	.....	104	10†	48	4	52	T.	.....	T.	0.0	0	14	6	11	w.	Southern Pacific Co.
Palmetto	do	6,780	20																	A. J. Akin.
Potts	Nye	6,990	17	66.6	− 4.0	95	7†	28	5	58	0.18	− 0.48	0.05	0.0	4	2	5	24	s.	Miss Mamie Potts.
Quinn River Ranch	Humboldt	4,850	8	71.8[c]	.....	99	13	35	3	60[c]	0.40	.....	0.10	0.0	5	20	8	3	sw.	F. M. Payne.
Reno	Washoe	4,532	39	72.8	+ 2.9	97	7	40	4	43	1.45	+ 1.17	1.20	0.0	5	24	5	2	w.	U. S. Weather Bureau.
Soda Lake	Churchill	4,534	3	76.6	.....	98	10†	46	4	39	0.08	.....	0.06	0.0	2	21	10	0	w.	U. S. Reclamation Service.
Tecoma	Elko	4,812	32	70.0	− 4.2	102	13	41	4	57	T.	− 0.16	T.	0.0	0	9	8	17	se.	Southern Pacific Co.
Tonopah	Nye	6,090	3	73.5	.....	92	11	41	4	30	0.52	.....	0.17	0.0	5	12	19	0	se.	U. S. Weather Bureau.
Wabuska	Lyon	4,347	7	71.2[d]	.....	104	11	32	4	56[d]	0.15	.....	0.15	0.0	1	22	0	9	ne.	Vic Bernard.
Wells	Elko	5,631	38	73.0	+ 1.9	104	20	34	29	60	.....	.....	.....	0.0	.....	21	3	7	s.	Southern Pacific Co.
Winnemucca	Humboldt	4,432	31	72.8	+ 1.2	98	25	40	5	49	0.10	− 0.07	0.05	0.0	2	22	7	2	sw.	U. S. Weather Bureau.

[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
* Precipitation included in that of the next measurement.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
‡ Separate dates of falls not recorded.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
‖ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
|| Estimated by observer.
¶ Precipitation for the 24 hours ending on the morning when it is measured
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for July, 1910. District No. 10, Great Basin.*

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Wyoming.																															
Border	Bear															13					.05	T.	T.				T.				T.	0.18
Cokeville	do				T.	T.							T.		T.	.09				.14	.62	T.					T.	T.	.06	T.	.04	T.	0.95
Evanston	do				.21										T.	.29		.11	T.	.31	.04	.07						.11	.21	T.			1.35
Idaho.																															
Geneva	Bear															40							.33								0.73
Grace	do			T.									.06		T.	.16			.12	T.	.06	.08					.14		.01	.14	T.	.34	1.11
Oxford	do																																
Paris	do													.35				.25	.10	.09	.06		.03						.02	.15		.05	1.10
Stone	Deep Creek																																
Weston	Bear															20				.63	.07	.03											0.93
Utah.																															
Alpine	Great Salt Lake														.04		.30											.05					0.39
Annabella	Sevier Lake																																
Beaver	do			T.								.02	T.	T.	.11	T.	.43	T.	.22	.01	.20	T.				T.	.14	.21	.04	.66	.04		2.08
Black Rock	do														.25		.13					T.					.83	.78					1.99
Blacksmiths Fork	Great Salt Lake																																
Card Canyon	do																																
Castle Rock	do																																
Cedar City	Desert																.08			.02										.02			0.12
Corinne	Great Salt Lake			T.												.72												T.					0.72
Deseret	Sevier Lake											.05			.10	.08				T.							.15						0.38
Enterprise	Desert													T.			.27											.02		*	.22		0.51
Farmington	Great Salt Lake														T.	.25											.03		.60			.78	1.66
Fillmore	Sevier Lake			T.								T.	T.		.08		.19	.05	T.	.03	.02		T.				T.	1.39		.02		.06	1.84
Friese Summit	Great Salt Lake									.04			T.			.29							.91			T.			.03			1.27
Frisco	Desert																																
Garland	Great Salt Lake																									.30		.22	.18	.24	.28	0.96
Garrison	Desert															.27												.10	.04			0.41
Government Creek	do																		T.	T.						.50	.13	.11	.59		T.		1.33
Grantsville	Great Salt Lake												T.		T.	.13	.32			T.	.02		T.				T.	.40	.01		T.	.07	0.95
Grouse Creek	Desert											T.	T.			.15			.10	.05	.07								.03			0.40
Heber	Great Salt Lake			T.	T.								T.		.08		.55			T.								.02		T.		.36	1.01
Henefer	do			T.									T.		.15	.48	T.			.03	T.						T.	T.	.60	T.		1.40	2.66
Ibapah	Desert									T.	T.	T.	T.	T.	.10	T.	T.		T.	T.	T.	T.				T.	.12	.35	.08	T.			0.65
Ibex	do																																
International	Great Salt Lake												T.		T.	.25			.02								.08	.76				.13	1.24
Iosepa	Desert																																
Kanosh	Sevier Lake														.14			.35	.26		.08						.03	.02	.10			.11	1.09
Kelton	Great Salt Lake																				*	.65											0.65
Levan	Sevier Lake			.01								T.		T.	.04		.03	T.	.18								T.				T.	0.26
Logan	Great Salt Lake														.49					T.							T.				.30	0.79
Lucin	Desert											T.	T.		T.	T.		T.		T.	T.							T.	T.			T.	T.
Manti	Sevier Lake			.18									.09	T.	.19	.14					T.					.03	.08		.08				0.79
Marion	Great Salt Lake			T.	.04								T.	T.	.03	.20	.18	.02	.04								.13	.02				.20	0.86
Marysvale	Sevier Lake			T.										.15	.04	.02					.01						.20	.05	.03	T.	T.	.12	0.62
Meadowville	Great Salt Lake														.25	.25													T.			T.	0.50
Milford	Sevier Lake									T.					T.		.50	T.		T.							T.						0.50
Millville	Great Salt Lake			T.											.02	.28					T.											.18	0.46
Minersville	Sevier Lake													T.	.31	T.	T.	.10								.43	.31		T.	.04			1.19
Modena	Desert									T.	T.		.30	.13	T.	.06				.02						.16	.01	T.	.01	.09	.02	.08		0.91
Morgan	Great Salt Lake																																
Moroni	Sevier Lake			.13	T.							T.	.05		T.	.03	T.	.08	.06		.01						.19	.33			T.	T.	0.88
Mt. Nebo	Great Salt Lake			T.											T.			.26	.24			.15	T.					.33			T.	0.98
Nephi (near)	do			.02											.08												.02	.15	.06				0.33
Oak City	Sevier Lake														.01		.05		.20	.02						.09		.32		.17	.20	1.06
Ogden	Great Salt Lake														.04	.10													.12			0.26
Panguitch Lake	Sevier Lake			.24	.50										.12	.50	.12			T.				T.			.98	.35	T.	.25	.35	T.	3.41
Park City	Great Salt Lake																																
Parowan	Desert																																
Payson	Great Salt Lake												.45	.05		.20		.45						.20	.71		.08			.04		2.18
Pinto	Desert												T.	.03	.02	.12	T.			T.	T.	T.	.10					.23			T.	T.	0.50
Promontory	Great Salt Lake												T.			.15				T.						.55	.18	.45	.45	.36	T.	.36		2.50
Provo	do																.40						.15					T.	.03			0.58
Randolph	do				.04										.13	.27	.01			.05	.08					T.	T.	.10	T.			.33	1.01
Richfield	Sevier Lake												.06		.36	.12	.11	T.	T.								.12	.15	.08				1.00
Saltair	Great Salt Lake											T.	T.	T.	T.	.30												.37	.25				0.92
Salt Lake City	do			T.									.10	T.	.02	.10	.02				T.						.02	.19	.01			.06	0.52
Scipio	Desert											T.			.02	T.	.13	.02		.12		.17					.02	.14		T.		T.	0.62
Sevier Mine	Sevier Lake			.12											.20	.05			.12	.20	.04	T.				T.	.05	T.		.13	.82	.14	1.87
Silver City	Desert																																
Spanish Fork Canyon	Great Salt Lake												.02	.03	.02	.15												T.				.43	0.22
Strawberry Valley	do			T.	.20		.09					.05	T.	.06	.16		.04						.05			T.	.05		.10			0.71
Thistle	do																																
Tooele	do												T.		.31	.16				.09	T.	T.					T.	.58			.21	1.35
Utah Lake Pump'g Sta	do																																
Woodruff	do																																
Oregon.																																	
Ana River	Southeast Drainage														.03						T.	.09											0.12
Burns	do																				.03												0.03
Burns Mill	do																			10	T.												0.10
Christmas Lake	do			.16											.13							.37											0.66
Diamond "H" Ranch	do																																
Paisley	do		.10																		.20												0.30
Plush	do			.47									.05							.29	T.												0.81
"P." Ranch	do											.12																					0.12
Silver Lake	do			.37												.43																	0.70
Valley Falls	do			.07								T.			T.					T.	.08	.17											0.32
California.																																	
Al Tahoe	Truckee																																
Bijou	do																																
Boca	do																																
Bodie	East Walker																																
Bridgeport	do																																
Brockway	Truckee																																
Deer Park	do																																
Donner Ice Camp	do																																
Fales' Hot Springs	West Walker																	.77									.81						1.58
Glen Alpine Springs	Truckee																																
Hobart Mills	do														T.				.12	.05													0.17
Lundy	East Walker																	.85	.45	.10													1.40
Markleeville	East Carson																	.35	.24	.32													0.91
McKinney	Truckee																																
Shields' Ranch	West Walker																	.02	.01	.01						T.							0.04

TABLE 2.—*Daily precipitation for July, 1910. District No. 10*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
California—Cont'd.																																	
Silver Creek	East Carson																	.90	1.11	1.29													3.30
Tahoe	Truckee																																
Tallac	do																																
Truckee	do																																
Woodfords	West Carson																																
Nevada.																																	
Aurora	East Walker																																
Austin	Reese																																
Battle Mountain	Humboldt										T.				T.				.51													0.51
Beowawe	do																																
Carlin	do														.30	.13																0.43
Carson Dam	Carson												T.		T.			T.														T.
Cherry Creek	Humboldt											T.	T.		T.	.02	.02	.33	.01	T.	.03	.01						.04	T.	T.		0.46
Clover Valley	do														.19		T.	T.	T.	T.	.06							T.			.15	0.40
Cobre	do														T.	T.		T.		.03								.02				0.05
Columbia	Desert														.04			.48									.06	.47	.04				1.09
Dutton	Humboldt				T.															.55												0.55
Elko	do														.68	1.03	T.	T.		T.	T.											1.71
Ely	do													.09			.25				T.					.60	T.	T.				0.94
Eureka	do												T.		.54	.06	.02	.36		.10	T.					.02	.92	.02	.07	T.		.48	2.62
Fallon	Carson														.03						.02							T.	T.			0.05
Fernley	Truckee			T.											T.			T.		.19								T.	T.			0.19
Gardnerville	Carson														T.				1.00	.60	T.									.90		2.50
Geyser	Humboldt																																
Glenbrook	Truckee																																
Golconda	Humboldt														T.					.25												0.25
Halleck	do														.26					.08												0.34
Jean	Desert													1.85	.40																	2.25
Leetville	Carson																	.30														0.30
Lewers Ranch	Truckee																	•	.15													0.15
Lovelock	Humboldt																		T.													T.
McAfee's Ranch	Desert																																
Millett	Reese										T.				.10			.31										.24	.35	T.		.30	.65	1.95
Mina	Desert										T.				T.			T.	T.	T.	T.	T.							T.	T.			T.
North Fork	Humboldt			T.	T.										.32	T.																0.32
Palmetto	Desert																																
Paradise Valley	Little Humboldt		.10												.05																	0.15
Potts	Reese														T.	T.		.05			.03					.05	T.	.05	T.	T.			0.18
Quinn River Ranch	Humboldt				.10							T.			.08					.04	.10	.08											0.40
Reno	Truckee									.01					.01			1.02	.28	T.									.13				1.45
Rose Creek	Humboldt														.10					.35													0.45
Smith	West Walker													T.	T.			.20	.10	.02								.36	T.				0.68
Spooners Ranch	Truckee																																
Soda Lake	Carson														.06			.02	T.									T.					0.08
Sweetwater	East Walker												.05		.15						.10	.15	T.		.10		.15	.20	.65	T.			1.55
Tecoma	Humboldt											T.							T.									T.			T.		T.
Tonopah	Desert														.02			.10	T.		.17					.07	T.	.10	T.				0.52
Wabuska	Walker																	T.		.15								T.					0.15
Wells	Humboldt																																
Willow Point	Little Humboldt																																0.00
Winnemucca	Humboldt				T.										.05					.05								T.					0.10

TABLE 3.—*Maximum and minimum temperatures at selected stations, July, 1910. District No. 10, Great Basin.*

Date.	Wyoming.				Weston, Idaho.		Utah.																			
	Border.		Evanston.				Corinne.		Deseret.		Government Creek.		Ibapah.		Marysvale.		Meadowville.		Modena.		Ogden.		Parowan.		Provo.		Salt Lake City.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	86	32	81	38	87	42	90	55	89	55	89	59	85	.....	86	39	85	36	85	46	.....	.....	83	49	95	50	90	62
2	80	38	82	39	88	42	100	49	92	53	91	56	84	.....	88	41	88	40	87	46	89	57	85	48	95	50	91	67
3	79	54	80	40	89	54	86	46	89	56	90	61	83	.....	85	54	87	51	86	56	87	65	86	58	89	57	89	71
4	74	40	72	48	81	50	86	45	86	63	84	61	73	.....	78	58	87	57	81	52	80	67	80	63	88	66	85	64
5	75	33	69	37	78	37	98	42	84	47	80	43	76	.....	84	41	70	38	85	47	80	47	83	46	87	49	76	57
6	80	33	75	37	86	40	96	46	90	43	88	49	87	.....	88	39	83	38	90	44	89	53	87	51	96	48	87	54
7	84	35	80	40	91	44	99	45	95	45	92	54	85	.....	91	42	86	44	93	49	91	59	90	54	92	51	90	64
8	83	34	79	41	90	43	98	48	94	51	91	52	83	.....	91	43	85	47	95	50	90	60	90	57	90	53	90	62
9	83	79	80	40	87	50	100	50	90	55	88	53	87	.....	89	51	78	48	92	55	87	59	90	58	88	52	84	65
10	85	38	79	43	90	43	96	48	95	63	90	56	84	.....	91	44	80	48	90	54	88	61	87	58	94	52	90	64
11	86	39	79	46	91	54	98	46	93	63	91	61	80	.....	91	45	84	41	93	58	89	63	91	57	90	57	89	66
12	91	40	84	47	91	51	99	47	97	57	93	57	89	.....	90	50	88	50	93	52	87	63	90	57	98	57	91	65
13	91	40	85	47	93	49	102	53	96	58	95	66	89	.....	90	51	90	42	90	55	94	64	90	57	101	58	97	68
14	89	40	81	44	93	56	105	63	85	58	85	64	80	.....	80	60	82	50	72	58	87	66	74	50	93	58	91	69
15	82	56	76	50	83	60	95	61	89	63	86	61	83	.....	81	51	80	58	84	56	86	63	76	56	91	63	86	65
16	89	46	85	45	92	53	98	60	96	57	90	56	83	.....	80	54	82	50	84	60	91	65	81	56	93	60	89	65
17	91	55	86	55	92	60	100	62	95	57	92	59	88	.....	90	50	84	60	92	57	90	69	89	55	95	60	96	66
18	94	50	87	50	96	59	102	65	97	60	95	61	89	.....	92	58	92	54	94	64	94	70	88	55	101	60	96	69
19	92	55	87	54	95	59	105	67	99	60	94	64	84	.....	88	60	84	61	91	61	92	72	91	56	100	64	97	72
20	90	51	86	51	94	60	100	68	96	58	95	61	81	.....	88	54	89	54	95	58	90	70	91	60	96	63	91	72
21	88	51	83	50	89	55	104	60	98	55	94	60	91	.....	92	52	87	49	96	57	92	68	93	60	96	61	92	68
22	89	46	82	51	90	54	102	59	96	59	95	66	89	59	89	54	89	50	91	62	92	69	88	58	98	63	93	72
23	79	37	78	40	85	43	97	62	92	71	88	50	85	49	89	59	78	42	91	63	86	54	91	59	98	50	85	61
24	88	34	85	41	91	44	99	64	97	48	95	55	95	53	92	45	88	40	92	59	92	58	81	57	98	52	95	60
25	93	29	86	45	93	50	102	62	96	54	96	65	84	59	94	53	89	45	88	61	92	63	81	56	101	58	96	69
26	86	50	84	55	90	61	105	49	85	64	92	70	83	55	85	61	87	57	87	58	89	69	82	55	98	71	91	72
27	87	55	80	56	80	60	98	45	86	62	85	61	75	55	79	56	83	60	83	60	83	68	81	56	89	63	82	62
28	85	56	80	55	85	55	94	60	88	55	83	56	73	49	82	55	85	60	83	57	84	63	83	57	88	59	83	61
29	88	50	81	48	91	51	98	60	92	60	90	58	84	53	83	56	80	50	89	59	87	65	84	57	96	61	88	67
30	89	45	85	46	91	53	101	58	92	59	90	61	84	56	86	63	84	47	84	59	90	66	85	57	94	60	92	71
31	87	43	82	48	91	55	99	65	89	65	86	64	.....	.....	77	55	80	49	84	56	85	68	81	57	94	59	92	62
Mns	85.2	43.7	81.3	46.0	89.1	51.2	98.5	55.2	92.2	57.2	90.1	58.7	83.9[a]	.....	86.7	51.1	84.3	48.9	88.4	55.8	88.4[a]	63.5[a]	85.5	55.8	94.3	57.6	89.8	65.5

Date.	Nevada.																									
	Burns, Oreg.		Elko.		Ely.		Eureka.		Fallon.		Jean.		Lovelock.		Millett.		Mina.		Quinn River Ranch.		Reno.		Tecoma.		Tonopah.		Winnemucca.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	70	37	86	48	88	51	86	40	88	45	101	64	99	52	84	47	92	62	86	43	81	44	95	48	84	56	83	48
2	74	38	88	48	91	55	86	51	87	48	101	75	95	48	87	42	92	60	84	41	77	50	94	47	83	60	>5	48
3	80	41	88	34	90	58	81	55	79	47	97	68	100	50	80	54	90	52	84	35	69	50	95	48	75	51	80	49
4	76	40	84	36	92	61	75	43	77	38	93	60	102	54	7	36	80	48	.....	.....	73	40	86	41	69	41	73	48
5	84	40	80	35	88	57	82	37	88	42	100	58	101	51	83	37	88	50	.....	.....	86	44	88	47	81	51	80	40
6	91	50	86	38	86	54	91	46	93	47	108	88	100	49	89	37	94	56	93	37	91	53	94	48	88	60	92	46
7	92	51	91	35	90	59	93	50	98	53	109	79	99	48	94	44	100	62	96	51	97	57	98	48	90	67	94	50
8	93	56	90	36	84	49	92	50	99	55	109	84	98	41	94	50	102	66	94	64	96	59	96	46	91	71	89	58
9	92	45	90	40	87	47	91	50	98	56	109	87	99	47	92	45	100	58	96	62	95	58	94	42	91	68	92	58
10	94	42	91	39	90	50	91	53	103	57	109	70	101	43	91	49	104	64	.....	.....	95	62	88	46	91	68	96	60
11	91	61	90	38	88	51	92	53	98	55	110	75	98	48	94	47	100	68	96	48	94	56	92	42	92	68	94	56
12	93	59	95	44	84	54	92	52	99	58	107	75	91	46	94	45	98	50	95	49	94	58	94	42	89	68	95	52
13	95	50	92	42	80	51	93	58	101	57	103	.....	95	41	91	50	100	61	99	46	95	60	102	45	86	64	97	51
14	109	44	87	55	85	58	82	59	89	64	94	.....	85	36	80	59	98	54	81	42	83	62	89	47	78	58	78	57
15	90	43	82	48	80	56	83	49	95	56	94	.....	101	39	86	48	92	50	88	43	87	55	92	46	81	56	89	54
16	91	40	88	47	75	46	90	56	95	55	102	.....	100	37	91	48	96	60	93	49	91	52	92	49	87	61	93	56
17	93	41	91	54	86	53	89	68	98	57	102	72	102	48	90	54	101	66	96	45	96	61	96	48	81	59	96	54
18	94	42	89	47	84	52	89	68	94	60	103	72	93	54	86	50	98	54	97	68	87	61	98	48	84	57	95	65
19	97	64	94	52	87	55	92	55	96	58	105	80	98	50	93	53	102	50	98	57	91	61	86	50	90	64	94	58
20	88	58	90	57	82	58	90	50	97	58	108	70	94	50	89	56	100	54	94	55	91	58	88	52	88	63	92	60
21	95	42	90	50	94	50	89	53	101	62	109	70	98	53	94	53	98	60	94	54	91	57	92	56	92	65	94	60
22	80	37	91	52	90	51	90	56	97	51	103	81	95	50	93	50	98	64	89	51	88	61	90	50	90	68	91	55
23	90	42	92	54	95	58	91	54	96	48	103	71	98	49	95	45	98	66	93	33	93	50	86	48	91	62	92	50
24	94	52	95	40	92	51	93	56	100	56	101	75	99	50	95	45	102	60	96	51	96	55	90	52	90	66	97	48
25	94	56	95	43	81	52	90	57	101	55	99	76	101	53	91	48	104	68	98	52	95	57	102	55	85	62	98	51
26	93	52	95	46	85	56	89	55	96	62	102	71	98	52	88	52	102	54	94	64	92	65	96	62	83	61	93	65
27	92	50	82	48	88	53	83	50	95	61	97	70	95	50	84	56	100	60	94	56	90	60	88	55	79	56	93	63
28	93	54	88	55	89	55	83	52	95	52	101	72	92	44	83	49	98	60	94	54	87	58	86	48	83	59	92	59
29	93	52	90	51	91	57	83	51	96	54	102	72	95	46	90	50	98	64	94	55	91	56	88	44	87	63	93	62
30	93	51	93	48	91	52	83	52	98	58	99	74	98	48	89	52	98	64	96	52	94	58	92	46	90	64	97	52
31	94	48	86	65	89	51	84	53	98	59	103	70	.....	.....	90	57	100	56	95	57	90	58	86	45	87	64	95	59
Mns	90.1	47.7	89.3	46.0	87.2	53.6	87.7	52.6	95.0	54.3	102.7	63.8[d]	97.3[a]	47.6[a]	88.9	49.0	97.5	58.7	93.1[c]	50.5[c]	89.5	56.0	92.0	48.1	85.7	61.3	91.0	54.6

Climatological Data for July, 1910.

DISTRICT No. 11, CALIFORNIA.

Prof. ALEXANDER G. McADIE, District Editor.

GENERAL SUMMARY.

The most noticeable feature of the weather for the month of July was the prolonged dry period. While rainfall decreases during the summer months on the Pacific slope, and there is a well-marked rainless condition over most of California, ordinarily these months are marked by occasional showers, not in themselves heavy, but having a cumulative value sufficient for the agricultural needs of the section. The amounts may vary from an inch in the north coast counties of California to 3 or 4 inches in the coast section above the California line. It may be said that approximately from 3 to 5 per cent of the annual rainfall occurs during the month of July. While this is not a great quantity, the total absence of even this amount is noteworthy as indicating a seasonal condition out of the ordinary. And this condition apparently existed over a wide area, the departures from normal being frequently more marked elsewhere than in California.

The departures from the normal for the entire State of California, as given elsewhere, do not tell the whole story. Owing to afternoon thundershowers in the mountains and in the southern coast counties the section average is slightly above that of a normal month, while as a matter of fact it was an abnormal season; and the sections which usually report light showers, were dry; while the mountain sections which usually are dry, with afternoon thunderstorms without much rain, showed during the present month rainfall, which while light, was still sufficient to bring the amount above the normal.

The month was also noticeable because of its comparatively low temperature for midsummer. The first week was abnormally cold and afternoon temperatures in the Great Valley did not exceed 90°. The last week of the month was also cold, although in the interior, afternoon temperatures were normal. Warm weather prevailed from about the 6th to the 15th, afternoon temperatures in the Great Valley running well up to 100° and higher, and again from the 18th to the 25th. In the coast sections temperatures continued low throughout the month.

The feature of most interest from an engineering point of view is the absence of sufficient water power. As far back as April the reports of this section foreshadowed a scarcity of water by the end of July, unless unlooked for precipitation occurred. The snow cover in the mountains at the beginning of summer was neither deep nor extensive. By the 1st of July snow was to be found only on the high peaks. It is probably fair to say that at the close of July there was less snow in sight than during any previous year at the same time since the country has been settled. This condition is reflected in the stages of the rivers. Apparently the run-off is less than during any July of which there is a record. Travel through the mountains opened early and mountain people report passes free from snow and water courses with little water in them, conditions previously unknown. Aside from the economic aspect, the absence of the usual floods from the melting of the snow and the marked deficiency in run-off this summer are interesting because they furnish a clear illustration of marked variation in water supply *not* caused by any artificial condition, such as deforestation or settlement of areas, but simply due to natural causes. Press reports confirm the river reports, showing an unusual condition of the navigable waters of the State. Sand bars have been formed in the Sacramento River, interfering with navigation. At Sacramento the river was lower than ever before reported during the month of July. In the San Joaquin watershed at some of the river gaging stations the water is but a few inches in depth.

TEMPERATURE.

The mean temperature for the State was 75.5°, or slightly below normal. As previously stated, this mean value gives no indication of the unusually cool condition prevailing in the coast counties during nearly the entire month. On the other hand, afternoon temperatures in the interior, while not higher than in previous Julys, continued at a high point for a longer period. The mean values for California in recent years are as follows: 1897, 74.5°; 1898, 81.4°; 1899, 77.9°; 1900, 75.9°; 1901, 76.0°; 1902, 72.8°; 1903, 71.2°; 1904, 72.2°; 1905, 74.8°; 1906, 76.8°; 1907, 73.1°; 1908, 76.4°; 1909. 71.2°; 1910, 75.5°.

The highest temperature recorded was 119° at Mammoth Tank on the 20th. Other high temperatures were: 118° at Heber on the 7th and at Needles on the 9th; 117° at Indio on the 7th; and 116° at Blythe, Calexico and Wasco, and 115° at Bagdad, Brawley, Orleans, and Shasta. It will be noticed that with the exception of Shasta the high temperatures are reported from stations in the southeastern counties. The temperatures reported were not as high as those occurring on May 30, this year, when at Blythe, Heber, and Indio 121° was reported.

The lowest temperature was 22° at Macdoel on the 3d. The highest monthly mean was 96.8° at Bagdad and the lowest 52° at Point Reyes Light.

From an agricultural standpoint temperatures during July were favorable, hastening the ripening of fruit.

PRECIPITATION.

The section average was 0.10 of an inch, or .02 of an inch above the normal. The amounts for previous years are as follows: 1897, .01 of an inch; 1898, trace; 1899, trace; 1900, 0.03; 1901, 0.01; 1902, 0.70; 1903, 0.03; 1904, 0.09; 1905, 0.01; 1906, 0.04; 1907, 0.03; 1908, 0.04; 1909, 0.05; 1910, 0.10. The greatest monthly amount was at Campo, 3.44 inches. More than half the stations in the State reported no rainfall. In the northern coast counties the absence of rain was noticeable. For example, normal rainfall at Eureka for the month of July is 0.09 of an inch. There was light rain during the first week of July, but none during the succeeding weeks, and the seasonal from March 1 to July 31 shows a deficiency of nearly 75 per cent.

The precipitation was chiefly in the mountain sections and in the form of afternoon thunderstorms. The cooperative observer at Campo calls attention to the fact that the first Sonora clouds were about two weeks later than usual in appearing. He also states that it was the wettest month for several years in that section. There was a period of unsettled weather from the 17th to the 20th. Mountain rains were reported in the Sierra Madre, and on the 18th there were thundershowers along the southern coast. At Santa Ana, the home of the Rev. Alfred Quitu, in the Catholic French Colony at San Juan Capistrano, was struck by lightning and burned to the ground. The occupants, 3 in number, escaped uninjured. At Redlands there was a shower lasting 20 minutes with 0.38 inch rainfall. Some minor washouts occurred on the Salt Lake Railroad near Otis.

In the northern counties afternoon thunderstorms did some damage to stock near Sierraville on the 19th.

SNOWFALL.

Not since the country was first settled has there been so little snow in the mountains as now. The whole season has been one of deficient snowfall. For travel in the mountains, conditions have been excellent and pack trains have experienced no difficulty on account of snow. As anticipated, early in the season, it is a bad year for water. Unless the storms are unus-

usually early in the fall the water supply will be deficient to a marked degree.

EARTHQUAKES.

Alameda, July 27, two shocks, 11:30 and 11:35 a. m. At Berkley, light shocks occurred on the 20th and 26th. At Tamarack a light shock occurred at 8:45 p. m., 13th

The Wiechert seismograph at Santa Clara College recorded an earthquake on July 2, from 5:15:54 p. m. to 5:18:24 p. m., with a maximum double amplitude of 2.5 mm. north and south; 2.6 mm. east and west, and 1 mm. vertical. On July 25 a disturbance was recorded at 9:41:20 a. m., ending 9:44:54, with amplitude 12.5 mm., north and south, 13 mm., east and west, and 2.5 mm. vertical. A faint shock was felt, the first movement from the west. It is worth noting that on July 26, in Japan, time not known, there was a great earthquake felt on the Island of Yezo (Hokkaido), the most northern island of the Japanese Empire.

MISCELLANEOUS NOTES.

Alturas.—The thunderstorm on the 14th gave 0.38 of an inch of rain in 10 minutes, and the one on the 19th gave 1.38 inch in an hour. Both local.—*C. B. Towle.*

Campo.—The first Sonora clouds were about two weeks behind time this year, appearing on the 13th and continued all through the month. Over 2 inches of rain fell in Laguna Valley, 6 or 12 miles east. Heavy rain fell on the 27th, some creeks running 10 feet of water. At San Felipe, to the north of this place, 2 inches fell in 20 minutes. It is the wettest month generally all over the mountain belt for many years.—*Archibald Campbell.*

Downieville.—Unusually hot weather for this altitude. Rivers lower than ever before known at this date.

La Porte.—The springs around here and the water in the water courses are lower this year than in many years past at this date.—*Charles W. Hendel.*

Sierra Madre.—On the 21st, when the thermometer was 104°, a sandstorm drifted up the valley and the temperature dropped 20° in about half an hour.—*Miss A. E. Carter.*

Sierraville.—A severe thunderstorm on the 19th; 150 head of sheep were killed by lightning near Gold Lake.

Tamarack.—A cloudburst occurred on the 19th, when 1.50 inch of rain and hail fell in 15 minutes at this station. Some cattle and sheep were lost and much damage done to the roads.—*William Bennett.*

Willows.—A beautiful display of ascending air currents through the far clouds at noon on the 28th, cirrus and cirrocumulus sheets of perpendicular lines extended below each cloud, and those of the center were of corkscrew shape. The air seemed full of bars where the clouds had disappeared.—*M. T. Harrington, jr.*

NOTES ON RIVER CONDITIONS IN THE SACRAMENTO AND SAN JOAQUIN VALLEYS DURING JULY, 1910.

Sacramento watershed.—All of the large streams in the Sacramento drainage basin fell slowly during July and carried less water than for any corresponding month of which there is an authentic record.

There has been a marked diminution in the run-off in the feeders of the main water courses throughout the Sacramento Valley, and some of the smaller mountain streams that heretofore flowed until well into the month of August, have become practically dry.

While the Sacramento, between Red Bluff and Redding is lower than for the past 5 years, the river between these points has fallen very slowly, there having been a range at Red Bluff of only 1 foot between the stage on June 1 and that of July 31, and only 0.4 foot between the first and last days of July. From Redding northward to the mouth of the Pitt River, the Sacramento is markedly below the July normal.

At Colusa the river was 1.5 foot lower than the low water of July, 1908, and 2.3 feet below the normal for the month, and at Knights Landing it was 1.2 foot below the low water of July, 1908, and over 2 feet below the normal for the month.

At Sacramento City the river was the lowest that has ever been recorded during the month in question, with an average stage of 1.3 foot below the previous lowest water during the month, and nearly 6 feet below the normal stage that has been maintained at this point in July during the past 10 years.

In the lower reaches of the Sacramento River, especially between Courtland and Collinsville, practically normal stages, with the usual fluctuations, due to tide action, have obtained.

In the Feather-Yuba territory the run-off of all streams diminished gradually during the month, and reports indicate that some of the smaller tributaries of the Yuba have practically ceased discharging. The average stage of the Yuba, at Marysville, was 6.5 feet, which is over 4 feet below the usual avearge for July and 1.4 foot below the previous lowest average for the month. The Feather, at Oroville, averaged 2 feet below the normal and nearly 1 foot lower than any stage previously recorded in July.

The American River, and all streams throughout its drainage basin, fell slowly but steadily. At Folsom it averaged 1.5 foot below the normal July stage, and 0.7 foot lower than the lowest ever previously recorded during the month.

Sand bars in the Sacramento River, near Sacramento City, have impeded navigation during the entire month, and the problem of removing these obstructions has been studied by some of the United States Engineer officials, who have visited this section for the purpose of observing the situation.

San Joaquin watershed.—All streams in this watershed continued to subside during the month, and in some cases the extreme summer low water stage has already been reached.

At Merced Falls the Merced River reached the zero mark on the gage on the 31st, and at Jacksonville, on the Tuolumne, the river was within 0.6 foot of the lowest stage ever before recorded. At Melones the Stanislaus was below the limits of the river gage and falling slowly. At Electra the Mokelumne reached the zero of the gage on the 28th, with indications that it will fall to a lower stage before the beginning of the rainy season.

There is still some water in the Calaveras River, but there is practically no discharge from this stream beyond the mouth of Mormon Slough, which is now dry between Bellota and the city of Stockton.

The San Joaquin itself has held up reasonably well below the mouth of the Calaveras. In the upper reaches of this stream, however, and especially above the mouth of the Merced River, it has been abnormally low, and during the month carried less water than for any July of which there is a record.—*N. R. Taylor, Local Forecaster.*

EVAPORATION AT LAKE ELEANOR.

Mr. Todd, of the Engineer Corps of the city of San Francisco, reports that during the month of July, 1910, the total evaporation at Lake Eleanor was 5.84 inches, divided very nearly into two-thirds and one-third, as the day and the night evaporation. The amounts were respectively, 3.89 and 1.95, with the night of June 30–July 1 omitted. If an average value be taken for the missing night, it would bring the monthly night evaporation up to 2.01 inches, and the total for the month 5.90 inches.

FROST FIGHTING.

Abstract of a paper by A. G. McAdie read at a meeting of orange and lemon growers at Pomona, Cal., June 28, 1910, by by A. B. Wollaber, Local Forecaster:

For 14 years a progressive campaign has been waged by fruit growers and Weather Bureau officials in California for the purpose of protecting citrus fruits from frost. Much satisfactory

work has been accomplished and the whole problem of protection so developed that the question has ceased to be one of local interest, and has spread to other States, becoming one of national importance. If the general principles laid down are correct, they can be applied successfully in the case of crops other than citrus ones, due allowance being made for new and changed conditions. So far as known, all of the present methods of protecting crops had their origin in California.

Before considering the physical processes involved in the formation of frost, it may be well to recall the conditions last winter in the San Gabriel Valley and other sections of California south of the Tehachapi. At the close of December, 1909, there was a prospective yield of 36,000 car loads of citrus fruit, one-fifth of the crop being lemons. The low temperature of the first week in January, 1910, caused a loss of perhaps 25 per cent During the entire winter there was no failure on the part of Weather Bureau officials to give ample and urgent warnings of the impending frosts. This is mentioned because it is considered equivalent to half the battle won and shows what can be done in that direction.

* * * * * * *

It would probably repay the citrus fruit growers to purchase and install from 20 to 40 thermographs and hygrographs in the San Gabriel Valley alone. An instrument has been designed in the San Francisco weather office especially for the use of growers. It is the nature of a combined thermograph and hygrograph; but so arranged that the record ordinarily given as a relative humidity is given in terms of the weight of the water vapor present. Relative humidity is at best only a ratio and means various things for various temperatures. It is, therefore, an unreliable index and may prove misleading in determining the minimum temperature. The new instrument, by indicating the actual weight of water vapor present, probably affords a more reliable index of the actual conditions. Any variation in the weight of the water vapor can be read from the record, and thus the grower can with more certainty determine the need of protection and the amount of heat required to offset the probable fall in temperature. Experience has shown that single observations of the dew-point shortly before sunset can not be relied upon to furnish a true value of the minimum temperature likely to occur. A continuous record of the amount of water vapor present, or rather its complement, the deficiency from saturation, shows the grower to what extent he may depend upon the water vapor as a protective agency.

* * * * * * *

The frosts which did the damage last winter were those of December 19, 1909, and January 3, 4, 5, 6, 7 and 8, 1910. Studies of the conditions have been made and it appears that the air temperature at a point 6 feet above the ground averaged 24° F. (4° C.). The rate of fall after sunset, the time of minimum and the number of hours the temperature was below 32° cannot be given with precision.

Of course the condition of the tree plays a very important part. Every grower knows that a tree that is backward or not in a tender condition will show less injury than it would otherwise. And furthermore, the exposure of the chilled fruit to the sun's rays in the morning plays a most important part. It is as necessary to study the rise in temperature immediately following the frost as it is to study the fall.

In general, the typically dangerous temperature curve is one showing a nearly uniform rate of fall from early afternoon to midnight, a slight check about midnight and nearly constant temperature until 4 a. m. Then and until sunrise or a little after a drop of 2°, 3°, or 4°. Then a rise at the rate of 3° or more per hour.

The general campaign of frost fighting, as developed in California and now followed elsewhere, consists of—

1. Accurate advance information of the likelihood of frost.
2. Application of preventive means during critical hours.
3. Guarding the fruit from a too rapid warming.

Under the first head the fruit grower has now little more to do than to keep in touch by telephone with the nearest forecasting center. Frost is primarily a matter of *air drainage*. As a result of certain movements of low and high pressure areas and the displacement of the lower air, comparatively still, dust free conditions ensue. There is very little water vapor present and radiation from soil and plant is marked. The air circulation near the ground becomes stagnant. Air is a poor conductor of heat, and there is but little warming of the soil by direct conduction from below. In other words, the loss of heat is a maximum and the supply a minimum.

* * * * * * *

Under the second, large fires are not as effective as numerous small fires or heaters. Many of the latter, known as orchard heaters, now on the market, have proven their worth; but the ideal heater, it seems to us, is still to be devised. One is needed that will give heat in sufficient quantity and with a fan or blower, thoroughly to mix the lower air.

In all the devices now on the market attention has been given simply to the heating. Fuel of different kinds is used and for various crops there will be a difference in efficiency, depending upon the fuel used, cost of labor, etc.

It seems to the writer that all protective devices are based upon the three following principles: (1) heating, (2) covering, (3) ventilating.

Under the first, come all forms of fire baskets, oil pots, and orchard heaters. Under the second, cloth covers, lattice work, artificial cloud builders, smudge makers, and the new antifrost cover. Under the third head there should be devised suitable forms of blowers and air mixers.

THE DISPOSITION OF SMOKE.

By ALEXANDER G. MCADIE.

At a meeting of the American Chemical Society held in San Francisco during the second week in July, 1910, Dr. E. G. Cottrell, of the University of California, described in an illustrated lecture the work done by himself and others at the Selby Smelter, on San Francisco Bay, in precipitating smoke particles by the use of a high voltage direct electric current.

The air of cities where manufacturing plants of any size are established is, as is well known, vitiated by the outpouring smoke and products of imperfect combustion; from chimney stacks, which in many cases are not high enough to permit proper carrying away of the smoke. In some cities the nuisance has become so great and injury to health and porperty so apparent that antismoke ordinances have been enacted and are enforced.

Of late years, in connection with large smelters, much damage has been done to crops and animal life in the neighborhood, since in the treatment of sulphide ores, large volumes of sulphur dioxide fumes are set free.

In some of the older forms of smoke protectors, woolen bags were used; but these, as Doctor Cottrell shows, while effective in the case of blast furnace gases containing a small quantity of the sulphur compounds, are not altogether satisfactory where "the roaster and refinery fumes are so strong as to soon destroy the woolen bags." Also, the cost of the reinforced concrete bag house is high and the electric power consumption for the blower is as great as that required by the electrostatic method.

In the new process the charged gas particles are forced to a lead plate, precipitated and recovered as dilute sulphuric acid. The electrification of the gas is accomplished by means of an alternating current stepped up through a transformer to 40,000 volts and rectified by means of a synchronous motor, so adjusted that only the peak of the wave is utilized. The discontinuous direct current thus produced is discharged from an asbestos electrode suspended in the midst of the smoke, thereby removing the obnoxious gases.

The above description is taken from the Journal of Electricity, July 23, 1910. Commenting upon the process, the editors refer to the classic experiments of Sir Oliver Lodge and others dating back to 1882. The experiments of Rayleigh, Bidwell, Robert von Helmholtz, Trowbridge, and others, upon the electrification of jets and the deposition of smoke particles are not, however, referred to. It is stated that Lodge's method, patented with a Wimhurst machine, lay dormant for over 20 years until Doctor Cottrell, while investigating its application to the contact sulphuric acid process, realized its tremendous value to the smelters, which were then beginning to be shut down as public nuisances. His investigation showed "that while an alternating current slowly agglomeratized the suspended matter, the best results were obtained with a high voltage direct current giving a brush discharge. A roughened electrode, such as asbestos or micanite from which the binding material has been removed, gives the best results, as there is a tendency toward an uneven point of discharge."

The phenomena are closely allied to the disruptive conduction of the Geissler tube which is used in the Moore light.

As stated above, the first commercial use of this electrical method was at the Selby Smelter on San Francisco Bay. Another plant is now being put in to treat the fumes at the Balakalala Consolidated Copper Company, Shasta County, Cal. It is understood that this company has been allowed to continue in operation pending the construction of the electrostatic apparatus for robbing the smelter fumes of the poisonous and injurious gases.

ELECTRICAL DEHYDRATION OF OIL.

The method described above, somewhat modified, has been used by Doctor Cottrell to advantage in separating oil and water in California. There are many pools and sinks containing oil mixed with water to such an extent as not to warrant any attempt at a commercial use of the same. The material is virtually a mechanical mixture of oil and water or an emulsion. This emulsion is treated electrically with the result that the minute water particles are agglomerated and sink to the bottom, while the oil floats on top. The apparatus is essentially a huge Lyden jar whose disruptive discharge penetrates the oil film. It is said that the separation has been observed by the use of a high power microscope. In practise, an alternating current is stepped up through a transformer to about 10,000 volts. The oil is delivered to a treater and passed on to storage tanks. The precipitated water is carried off at the bottom, and "this water is used in preference to the regular supply for washing purposes in the district." At a plant in operation in the Coalinga district, described in the Journal of Electricity, July 23, 1910, 500 barrels of oil per day were obtained; or, in a run of 5 months, 75,000 barrels of marketable oil. This oil formerly contained 14 per cent of water, which was reduced to less than 2 per cent. A plant is being installed in the Santa Maria fields with a capacity of 1,000 barrels daily from a mixture containing about 25 per cent of water. The voltage used is about 10,000 and there is required about one-seventh of a kilowatt hour per barrel of oil treated. The use of a rotating electrode to economize the energy is under consideration.

TABLE 1.—*Climatological data for July, 1910. District No. 11, California.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Oregon.																				
Klamath Agency	Klamath	4,169	2	59.8	.....	90	12†	24	4	58	0.01	.....	0.01	0.0	1	21	3	7	s.	Edson C. Watson.
Klamath Falls	do	4,250	15	68.6	+ 0.9	94	13	37	4	37	0.26	+ 0.14	0.26	0.0	1	24	3	4	nw.	W. H. Heilman.
Lakeview	Lake	4,800	7	63.2	− 3.3	101	30	20	4	70	0.00	− 0.28	0.00	0.0	0	27	2	2	s.	Geo. L. Wharton, jr.
Merrill	Klamath	4,070	4	67.4	.....	95	13	37	5	45	0.81	.....	0.00	0.0	2	25	6	0	.....	Mrs. Agnes Ritchson.
Yonna	do	.....	3	65.5	.....	95	10†	32	4†	54	0.30	.....	0.22	0.0	3	24	7	0	s.	Jacob Rueck.
California.																				
Alameda	Alameda	.....	1	67.2	.....	84	19	57	3	...	T.	.....	T.	0.0	0	31	0	0	w.	Chas. E. Sears.
Alturas	Modoc	4,460	6	69.2	.....	100	13	33	5	56	2.29	.....	1.88	0.0	4	24	7	0	sw.	Prof. C. B. Towle.
Anderson (near)	Shasta	550	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. S. Richardson.
Angiola	Tulare	208	10	79.5	+ 1.6	112	18	40	2†	69	0.00	0.00	0.00	0.0	.....	.....	.....	.....	.....	Santa Fe Co.
Antioch	Contra Costa	46	31	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Southern Pacific Co.
Aptos	Santa Cruz	102	25	62.4	+ 0.1	75	5	54	30†	...	0.00	− 0.01	0.00	0.0	0	23	5	3	nw.	Do.
Arrowhead Springs	San Bernardino	2,000	1	78.3	.....	106	20	47	3	38	0.00	.....	0.00	0.0	0	.....	.....	.....	.....	G. I. Royce.
Auburn	Placer	1,360	9	75.3	− 1.5	105	20	42	4	46	0.00	− 0.02	0.00	0.0	0	30	1	0	.....	Southern Pacific Co.
Avalon	Los Angeles	.....	.....	65.7	.....	79	21	53	4	18	T.	.....	T.	0.0	0	26	5	0	w.	W. N. Vilas.
Azusa	do	540	8	76.9	.....	112	21	46	5	58	0.00	0.00	0.00	0.0	0	31	0	0	sw.	A. P. Griffith.
Bagdad	San Bernardino	784	7	96.8	.....	115	20†	78	5†	27	.T	.....	T.	0.0	0	.....	.....	.....	.....	Santa Fe Co.
Bakersfield	Kern	404	21	86.6	− 2.0	110	21†	58	4	40	0.00	− 0.02	0.00	0.0	0	31	0	0	.....	Do.
Barstow	San Bernardino	2,105	7	86.0	.....	112	13	55	5	47	0.22	+ 0.19	0.21	0.0	4	30	1	0	w.	E. L. White.
Berkeley	Alameda	317	23	60.6	− 0.4	79	5	50	5	29	0.00	− 0.04	0.00	0.0	9	8	14	0	e.	State University
Biggs	Butte	98	11	79.5	+ 0.8	106	8	62	3†	...	0.00	0.00	0.00	0.0	0	31	0	0	s.	Southern Pacific Co.
Bishop	Inyo	4,450	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. A. Chalfant.
Blocksburg	Humboldt	1,700	4	69.7	.....	104	9	39	1	45	T.	.....	T.	0.0	0	27	3	1	nw.	Victor Hope.
Blue Canon	Placer	4,695	11	66.4	+ 0.4	90	10	32	6	45	0.00	0.00	0.00	0.0	0	28	0	3	.....	Southern Pacific Co.
Blythe	Riverside	.....	1	89.2	.....	116	20	57	1	49	0.63	.....	0.38	0.0	4	18	8	5	sw.	H. V. Blenkiron.
Branscomb	Mendocino	2,000	10	68.4	.....	100	8	42	17	47	0.00	− 0.13	0.00	0.0	0	30	1	0	n.	A. J. Haun.
Brawley	Imperial	−105	1	91.8	.....	115	20	62	1	42	0.00	.....	0.00	0.0	0	.....	.....	.....	.....	U. S. Weather Bureau.
Brush Creek	Butte	2,140	6	73.2	.....	106	8†	40	2†	56	0.00	.....	0.00	0.0	0	.....	.....	.....	.....	Cal. Gas & Electric Co.
Calexico	Imperial	0	5	90.3	.....	116	7†	71	3	38	0.08	.....	0.08	0.0	1	19	9	3	se.	J. E. Peck.
Caliente	Kern	1,290	34	92.0	+ 7.2	106	21†	72	3	...	0.00	0.00	0.00	0.0	0	31	0	0	.....	Southern Pacific Co.
Calistoga	Napa	363	38	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.
Campbell	Santa Clara	217	13	63.4	− 1.5	89	9	40	1†	44	T.	0.00	T.	0.0	0	24	1	6	nw.	F. M. Righter.
Camptonville (near)	Yuba	3,500	3	79.4	.....	111	9	42	4	48	0.00	.....	0.00	0.0	0	27	4	0	.....	S. B. Johnson.
Cedarville	Modoc	4,675	16	73.8	+ 4.6	99	13†	45	5	43	0.03	− 0.27	0.03	0.0	1	30	1	0	sw.	T. H. Johnstone.
Chico	Butte	189	40	80.2	− 3.7	110	8	48	4	48	0.00	− 0.04	0.00	0.0	0	31	0	0	s.	Butte Co. R. R.
China Flat	Humboldt	600	1	77.4	.....	113	9	47	5	54	0.00	.....	0.00	0.0	0	28	3	0	nw.	O. I. Westerburg.
Chino	San Bernardino	714	18	79.9	+ 2.8	103	18	61	31	...	0.00	− 0.04	0.00	0.0	0	22	6	3	w.	Southern Pacific Co.
Cisco	Placer	5,939	39	81.7	+18.5	95	17	58	2	...	0.00	− 0.03	0.00	0.0	0	31	0	0	.....	Do.
Claremont	Los Angeles	1,200	18	76.6	+ 5.0	110	20†	49	2†	46	0.00	− 0.02	0.00	0.0	0	22	9	0	w.	F. P. Brackett.
Cloverdale	Sonoma	340	8	72.0	.....	108	8	43	26	57	0.00	.....	0.00	0.0	0	30	1	0	n.	Lloyd Browne.
Colfax	Placer	2,421	39	74.3	− 1.0	99	10	44	3†	37	0.00	− 0.03	0.00	0.0	0	29	0	2	s.	Southern Pacific Co.
Colusa	Colusa	60	7	80.4	.....	105	8†	48	4	28	0.00	0.00	0.00	0.0	0	.....	.....	.....	.....	W. K. De Jarnatt.
Corning	Tehama	277	24	86.7	+ 3.3	110	8†	60	3	...	0.00	0.00	0.00	0.0	0	29	2	0	s.	Southern Pacific Co.
Cuyamaca	San Diego	4,677	11	73.1	+ 8.1	96	21	53	1	31	1.50	+ 1.13	0.74	0.0	5	10	17	4	e.	L. L. Macquarie.
Daunt	Tulare	4,000	3	72.6	.....	98	20†	38	3	44	0.26	.....	0.15	0.0	2	25	4	2	.....	D. L. Wishon.
Davisville	Yolo	51	38	73.6	− 4.3	108	8†	43	4	54	0.00	− 0.02	0.00	0.0	0	29	2	0	sw.	S. H. Beckett.
Deer Creek	Nevada	3,700	3	66.3	.....	93	9	33	4	42	0.00	.....	0.00	0.0	0	25	6	0	w.	Cal. Gas & Electric Co.
Delta	Shasta	1,138	25	67.7	−11.2	107	9	37	1	64	0.00	− 0.13	0.00	0.0	0	31	0	0	n.	Southern Pacific Co.
Denair	Stanislaus	126	10	76.8	+ 0.7	108	19	46	4	54	0.00	0.00	0.00	0.0	0	31	0	0	.....	Santa Fe Co.
Dobbins	Yuba	1,650	6	79.0	.....	104	8†	50	4	38	T.	.....	T.	0.0	0	30	1	0	s.	Cal. Gas & Electric Co.
Dudleys	Mariposa	3,000	1	67.9	.....	96	16	31	4	50	0.17	.....	0.09	0.0	2	24	5	2	n.	W. H. Dudley.
Dunnigan	Yolo	65	33	87.9	+ 6.1	108	8	68	31	...	0.00	0.00	0.00	0.0	0	31	0	0	n.	Southern Pacific Co.
Dunsmuir	Siskiyou	2,285	21	73.7	+ 4.2	104	9	50	16	...	0.00	− 0.26	0.00	0.0	0	29	0	2	n.	Do.
Durham	Butte	160	15	78.2	− 1.2	109	9	47	3	49	0.00	− 0.05	0.00	0.0	0	28	3	0	s.	R. W. Durham
El Cajon	San Diego	482	11	73.4	+ 2.1	101	6†	47	1	47	0.34	+ 0.24	0.33	0.0	2	29	2	0	sw.	H. H. Kessler.
Electra	Amador	725	6	82.7	.....	112	20	50	4	48	0.00	.....	0.00	0.0	0	30	1	0	.....	Cal. Gas & Electric Co.
Elsinore	Riverside	1,234	15	78.2	− 0.2	111	21	45	4	56	0.09	+ 0.07	0.09	0.0	1	27	4	0	w.	W. H. Bohannon.
Emigrant Gap	Placer	5,230	36	76.8	+ 9.3	90	28	59	2	22	0.00	− 0.03	0.00	0.0	0	28	0	3	.....	Southern Pacific Co.
Escondido	San Diego	657	16	74.0	+ 1.5	103	7	46	4†	48	0.25	+ 0.25	0.14	0.0	2	10	21	0	w.	A. R. Moon.
Eureka	Humboldt	64	24	54.7	− 0.6	63	19	47	18	13	0.00	− 0.09	0.00	0.0	0	4	13	14	nw.	U. S. Weather Bureau.
Farmington	San Joaquin	111	31	80.4	+ 2.2	106	20	56	3	...	0.00	0.00	0.00	0.0	31	0	0	0	nw.	Southern Pacific Co.
Folsom	Sacramento	252	38	78.8	− 3.1	110	18†	47	4	47	0.00	− 0.01	0.00	0.0	0	28	1	2	s.	F. O. Hutton.
Fordyce Dam	Nevada	6,500	15	61.6	.....	85	8†	32	4	34	0.14	− 0.06	0.08	0.0	2	24	7	0	sw.	E. E. Roening.
Fouts Springs	Colusa	1,650	6	70.9	.....	102	9†	40	3	49	T.	.....	T.	0.0	0	31	0	0	.....	H. S. Green.
Fresno	Fresno	293	23	83.2	+ 1.2	110	21	51	4	42	T.	0.00	T.	0.0	0	26	5	0	w.	U. S. Weather Bureau.
Fruto	Glenn	624	21	83.3	+ 0.8	111	9	58	3	....	0.00	0.00	0.00	0.0	0	31	0	0	s.	Southern Pacific Co.
Galt	Sacramento	49	32	72.3	− 6.7	101	18	53	28	...	0.00	0.00	0.00	0.0	0	29	1	1	w.	Do.
Georgetown	El Dorado	2,650	37	78.6	− 0.2	101	9	42	4	37	0.00	− 0.06	0.00	0.0	0	31	0	0	sw.	H. D. Jerrett.
Gilroy	Santa Clara	193	36	70.2	+ 1.4	105	18	55	2†	...	0.00	0.00	0.00	0.0	0	31	0	0	se.	Southern Pacific Co.
Gold Run	Placer	3,222	11	77.2	+ 2.2	98	9†	46	4	30	0.00	0.00	0.00	0.0	0	27	2	2	.....	Do.
Gonzales	Monterey	127	11	59.1	− 0.8	85	5†	45	11	...	0.00	0.00	0.00	0.0	0	29	1	1	n.	Do.
Grass Valley	Nevada	2,690	38	75.0	.....	99	9	41	4	34	0.00	− 0.04	0.00	0.0	0	30	1	0	sw.	F. R. Hull.
Greenville	Plumas	3,600	16	66.8	+ 1.4	100	8†	33	4	60	0.35	+ 0.15	0.35	0.0	1	27	4	0	sw.	C. H. Higbie.
Groveland	Tuolumne	2,828	1	74.8	.....	98	20†	37	4	42	0.12	.....	0.12	0.0	1	23	8	0	.....	H. S. Richardson.
Guinda	Yolo	350	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Southern Pacific Co.
Hanford	Kings	249	10	80.4	+ 1.9	108	10	50	4	44	0.00	0.00	0.00	0.0	0	29	1	1	.....	Santa Fe Co.
Healdsburg	Sonoma	110	17	68.1	+ 1.3	100	6†	42	21†	52	0.00	− 0.07	0.00	0.0	0	.....	.....	.....	.....	John Favour.
Hearst	Mendocino	1,800	...	72.8	.....	104	7	48	1†	52	0.01	.....	0.01	0.0	1	29	2	0	w.	H. D. Ellmaker.
Heber	Imperial	−20	4	92.7	.....	118	7†	60	2	50	T.	.....	T.	0.0	0	26	3	2	se.	E. T. Chumard.
Hollister	San Benito	284	36	64.0	− 3.2	94	20	42	2	45	0.06	+ 0.05	0.06	0.0	1	29	2	0	w.	J. N. Thompson.
Hornbrook	Siskiyou	2,154	22	58.6	−16.7	98	11†	40	13	...	0.00	− 0.25	0.00	0.0	0	31	0	0	w.	Southern Pacific Co.
Hot Springs	Tulare	3,300	3	76.2	.....	99	22	43	4	36	0.01	.....	0.01	0.0	1	30	0	1	.....	U. S. Forest Service.
Hullville (near)	Lake	2,250	3	72.2	.....	102	9	40	3	43	0.05	.....	0.05	0.0	1	18	13	0	sw.	John Duggan.
Idyllwild	Riverside	5,250	9	72.4	.....	98	21	44	1	46	0.55	.....	0.31	0.0	4	20	8	3	sw.	Earl Powers.
Independence	Inyo	3,907	14	77.9	− 0.6	102	9	48	4	41	0.27	+ 0.16	0.18	0.0	2	21	8	2	.....	U. S. Weather Bureau.
Indio	Riverside	−20	32	92.4	− 1.1	117	7†	65	9	38	T.	0.00	T.	0.0	0	23	8	0	nw.	F. N. Johnson.
Inskip	Butte	4,975	3	70.3	.....	94	9	40	1	30	0.00	.....	0.00	0.0	0	24	7	0	.....	Cal. Gas & Electric Co.
Ione	Amador	287	32	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Southern Pacific Co.
Iowa Hill	Placer	2,825	29	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. F. Macy.
Jamestown	Tuolumne	1,471	7	77.6	.....	105	19	45	2†	41	0.05	.....	0.05	0.0	1	29	2	0	.....	Sierra Ry. of California.
King City	Monterey	333	23	68.2	+ 1.2	102	6	40	5	57	0.00	0.00	0.00	0.0	0	31	0	0	n.	Southern Pacific Co.
La Porte	Plumas	5,000	16	64.9	+ 2.4	92	9	33	4†	45	T.	− 0.25	T.	0.0	0	30	1	0	w.	C. W. Hendel.
Le Grand	Merced	255	10	81.1	+ 2.7	111	21	46	4	44	0.20	+ 0.20	0.20	0.0	1	31	0	0	.....	Santa Fe Co.
Lemon Cove	Tulare	600	15	84.1	+ 0.8	112	20†	48	4	47	T.	− 0.01	T.	0.0	0	26	2	3	sw.	G. W. Sandidge.
Lick Observatory	Santa Clara	4,209	21	70.5	+ 1.1	88	18	39	3†	23	0.04	+ 0.04	0.03	0.0	2	23	8	0	nw.	The Director.
Livermore	Alameda	485	39	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. G. Still.
Lodi	San Joaquin	45	28	73.4	− 0.3	104	20	45	2	42	0.00	0.00	0.00	0.0	0	30	1	0	w.	Ezra Fiske.

TABLE 1.—*Climatological data for July, 1910. District No. 11*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
California—Cont'd.																				
Lone Pine	Inyo	2,728	5	76.0	.....	101	9†	40	3	55	0.18	.....	0.18	0.0	1	15	14	2	s.	G. F. Marsh.
Long Valley	Lassen	4,400	1	74.9[b]		100	10	43	5	46	T.	.....	T.	0.0	0	20	6	5	sw.	A. G. Evans.
Los Angeles	Los Angeles	203	33	70.2	+ 2.8	93	6	54	14	30	0.04	+ 0.02	0.04	0.0	1	19	11	1	sw.	U. S. Weather Bureau.
Los Banos	Merced	121	23	77.8	− 3.7	104	18	60	2†	...	0.00	− 0.01	0.00	0.0	0	27	0	4	w.	Southern Pacific Co.
Los Gatos	Santa Clara	600	23	67.8	+ 0.1	96	19	44	1†	45	T.	0.00	T.	0.0	0	27	3	1	n.	F. H. McCullagh.
Lytle Creek	San Bernardino	2,900	1	73.4[f]	.....	103	20	40	3	45	0.00	.....	0.00	0.0	0	.....			.....	W. E. Anderson.
Macdoel	Siskiyou	4,258	3	64.0	.....	95	13	22	3	51	0.67	.....	0.57	0.0	2	24	5	2	nw.	B. V. L. Co.
Madeline	Lassen	5,270	1	65.4	.....	92	7†	37	1	52	1.63	.....	0.63	0.0	5	22	6	3	w.	J. H. Williams.
Magalia	Butte	2,321	6	74.2	.....	105	9	39	2	48	0.00	.....	0.00	0.0	0	29	2	0	se.	Butte County R. R. Co.
Mammoth Tank	Imperial	257	32	91.6	− 6.9	119	20	67	14	41	0.76	+ 0.70	0.76	0.0	1	17	11	3	w.	Southern Pacific Co.
Marysville	Yuba	67	30	77.4	− 2.6	105	20	52	31	44	0.00	0.00	0.00	0.0	0	31	0	0	s.	Do.
Mecca	Riverside	−185	4	91.6		114	20	65	2	41	0.00		0.00	0.0	0	23	6	2	se.	A. Lunsted.
Menlo Park	San Mateo	64	32	67.5	− 0.2	88	5†	50	2†	...	0.00	− 0.01	0.00	0.0	0	31	0	0	nw.	Southern Pacific Co.
Merced	Merced	173	36	77.4	− 4.3	104	21	54	4	33	0.00	− 0.01	0.00	0.0	0	31	0	0	nw.	Santa Fe Co.
Mill Creek (1)	Amador		3	71.4		94	14†	42	1†	40	0.00		0.00	0.0	0	29	1	1	n.	Cal. Gas & Electric Co.
Milton (near)	Calaveras	660	19	78.1	− 0.5	107	18†	49	4	42	T.	0.00	T.	0.0	0	28	3	0	nw.	J. H. Southwick.
Modesto	Stanislaus	90	38	84.5	+ 3.0	107	18	61	1	...	T.	− 0.01	T.	0.0	0	30	0	1	.....	Southern Pacific Co.
Mojave	Kern	2,751	33																	Do.
Mokelumne Hill	Calaveras	1,550	17	77.2	+ 1.4	101	18	35	3	43	T.	0.00	0.00	0.0	0	29	2	0	.....	C. E. Prindle.
Mono Ranch	Ventura	3,210	4	74.5		96	20	41	4	45	T.	.....	T.	0.0	0	25	5	1	w.	H. Lathrop.
Montague	Siskiyou	2,450	22																	G. H. Chambers.
Monterey	Monterey	15	45	63.6	+ 2.6	76	17†	56	2†	...	0.00	0.00	0.00	0.0	0	31	0	0	nw.	Southern Pacific Co.
Monterio	Kern	4,500	11	79.6	+ 3.4	104	20	58	7	38	0.07	− 0.01	0.07	0.0	1	20	9	2	nw.	John C. Knecht.
Monumental	Del Norte		5	68.2	.....	100	9	39	16	52	0.00	.....	0.00	0.0	0	30	1	0	.....	G. F. Morgan.
Mount Tamalpais	Marin	2,375	11	69.0	− 1.5	93	18	42	3	29	0.00	− 0.01	0.00	0.0	0	27	3	1	nw.	U. S. Weather Bureau.
Napa City	Napa	20	33	63.8	− 2.0	98	6	43	2	48	0.00	− 0.01	0.00	0.0	0	29	2	0	s.	Thomas Hull.
Napa (S. H.)	...do	60	32	66.6	+ 0.8	95	6	48	1†	43	0.00	− 0.01	0.00	0.0	0	24	7	0	sw.	W. H. Martin.
Needles	San Bernardino	477	18	96.0	+ 1.6	118	9	75	6	34	0.44	+ 0.02	0.29	0.0	2	27	0	4	w.	Santa Fe Co.
Nellie	San Diego	5,350	1																	C. J. Bailey.
Nevada City	Nevada	2,580	18	71.4	+ 2.8	100	9†	35	4	52	0.00	− 0.03	0.00	0.0	0	29	0	2	sw.	S. W. Marsh.
Newcastle	Placer	970	17	80.6	+ 0.4	108	8†	44	5	58	0.00	− 0.01	0.00	0.0	0	31	0	0	s.	George D. Kellog.
Newhall	Los Angeles	1,200	33	74.2	− 2.4	110	20	55	2	...	0.00	0.00	0.00	0.0	0	31	0	0	se.	Southern Pacific Co.
Newman	Stanislaus	91	21	79.3[e]	− 5.3	108	19	48	5	50	0.00	− 0.01	0.00	0.0	0	31	0	0	n.	E. S. Wangenheim.
Nimshew	Butte	2,500	6	73.2	.....	101	8†	42	4	41	0.00	.....	0.00	0.0	0	31	0	0	.....	Cal. Gas & Electric Co.
North Bloomfield	Nevada	3,200	13																	W. G. Shand.
North Fork	Madera	3,000	6																	G. H. Shinn.
Oakdale	Stanislaus	156	16	78.4	− 1.3	104	8†	54	4	...	0.00	0.00	0.00	0.0	0	29	2	0	nw.	Southern Pacific Co.
Oakland	Alameda	36	34	61.5	− 0.3	80	5	51	3†	29	T.	− 0.02	T.	0.0	0	11	14	6	w.	Chabot Observatory.
Oceanside	San Diego																			H. D. Brodie.
Ojai Valley	Ventura	900	4	72.2	.....	108	20†	44	3†	48	T.	.....	T.	0.0	0	28	3	0	sw.	W. H. Duncan.
Orland	Glenn	254	28	81.2	− 5.2	113	8	50	3	46	0.00	− 0.02	0.00	0.0	0	31	0	0	se.	W. W. Patch.
Orleans	Humboldt	520	7	80.3	.....	115	9	49	1	55	0.08	.....	0.08	0.0	1	26	5	0	.....	Fred T. Hale.
Oroville (near)	Butte	250	26	79.5	− 1.8	108	8	50	4	47	0.00	− 0.03	0.00	0.0	0	26	4	1	s.	E. D. Fairchild.
Palermo	...do	213	19	78.2	− 0.7	109	8	50	30	48	T.	− 0.04	T.	0.0	0	24	7	0	s.	Miss Hettie Boalt.
Palm Springs	Riverside	584	21	92.1	− 5.6	112	6	76	2	...	0.80	+ 0.77	0.80	0.0	1	23	5	3	w.	Southern Pacific Co.
Pasadena	Los Angeles	827	20	73.8	+ 2.4	105	21	49	5†	48	0.02	+ 0.02	0.02	0.0	1	31	0	0	sw.	E. R. Sorver.
Paso Robles	San Luis Obispo	800	23	69.4	− 3.1	109	21†	36	3	59	0.00	0.00	0.00	0.0	0	31	0	0	nw	Dr. F. W. Sawyer.
Peachland	Sonoma	190	14	63.6	− 2.4	95	6	39	2	53	T.	− 0.01	T.	0.0	0	19	12	0	sw.	E. H. Parnell.
Penstock Camp	Tuolumne	3,750	3	78.0		98	10	48	4†	28	0.00		0.00	0.0	0	29	0	2	w.	Tuolumne W. P. Co.
Placerville	El Dorado	1,875	21	73.9	+ 1.2	100	8†	42	4	44	0.00	− 0.02	0.00	0.0	0	27	4	0	sw.	A. Baring Gould.
Point Lobos	San Francisco	250	17	55.0	− 1.0	72	6	48	7†	20	T.	− 0.01	T.	0.0	0	3	7	21	sw.	John Hyslop.
Point Reyes	Marin	490	18	52.0	− 1.7	64	5	45	7	17	T.	− 0.10	T.	0.0	0	6	5	20	nw.	U. S. Weather Bureau.
Porterville	Tulare	464	21	83.3	− 4.8	111	20†	47	5	48	0.04	− 0.02	0.02	0.0	2	27	4	0	.....	Harry E. Cowie.
Quincy	Plumas	3,400	15	66.0	+ 0.1	97	8†	33	4	54	0.00	− 0.08	0.00	0.0	0	29	2	0	sw.	D. N. Rogers.
Red Bluff	Tehama	307	33	82.0	− 0.1	111	9	54	4	37	0.00	− 0.03	0.00	0.0	0	30	1	0	se.	U. S. Weather Bureau.
Redding	Shasta	552	35	82.6	+ 0.3	108	8†	55	4	35	T.	− 0.09	T.	0.0	0	30	1	0	n.	L. F. Bassett.
Redlands	San Bernardino	1,352	17	77.6	− 0.7	108	21	51	8†	45	0.38	+ 0.24	0.38	0.0	1	20	8	3	w.	Paul W. Moore.
Reedley	Fresno	347	10	82.4	+ 0.2	109	9†	49	4	51	0.00	0.00	0.00	0.0	0	29	0	2	.....	Santa Fe Co.
Rialto (near)	San Bernardino	2,250	4	77.0	.....	103	21	48	3	34	0.00	.....	0.00	0.0	0	24	7	0	sw.	So. California Edison Co.
Riverside	Riverside	851	28	77.0	+ 0.7	107	20	49	2†	50	0.00	− 0.02	0.00	0.0	0	21	9	1	w.	C. W. Barton.
Rocklin	Placer	249	39	75.7	− 4.3	106	18	45	4	47	0.00	− 0.03	0.00	0.0	0	26	2	3	se.	Southern Pacific Co.
Rohnerville	Humboldt	75	7	57.2	.....	73	8	43	5	24	0.00	.....	0.00	0.0	0	19	9	3	n.	Dr. R. Callahan.
Sacramento (1)	Sacramento	71	33	72.3	− 0.2	101	18	50	4	40	0.00	0.00	0.00	0.0	0	28	3	0	s.	U. S. Weather Bureau.
Sacramento (2)	...do	35	57	71.4	− 2.2	98	19†	48	4	36	T.	− 0.03	T.	0.0	0	25	5	1	s.	S. H. Gerrish.
St. Helena	Napa	255	2	69.4		105	20	41	2†	56	0.00		0.00	0.0	0	25	0	6	.....	B. F. Kettlewell.
Salinas	Monterey	40	36	61.6	− 1.1	82	5	44	5	38	0.00	0.00	0.00	0.0	0	30	1	0	w.	Miss E. Ruth Abbott.
San Bernardino	San Bernardino	1,054	18	78.0	+ 3.0	111	21	44	5	57	0.05	+ 0.01	0.05	0.0	1	18	13	0	sw.	Dr. A. K. Johnson.
San Diego	San Diego	93	39	67.0	− 0.1	82	6	56	4	19	0.01	0.00	0.01	0.0	1	19	10	2	nw.	U. S. Weather Bureau.
San Francisco	San Francisco	207	39	56.4	− 0.9	76	5	48	7	25	T.	− 0.02	T.	0.0	0	15	11	5	w.	Do.
San Jacinto	Riverside	1,550	17	78.6	+ 2.4	107	7	49	3†	49	0.00	− 0.08	0.00	0.0	0	15	10	6	w.	E. T. Tanner.
San Jose	Santa Clara	95	35	65.5	− 1.4	89	6	43	1	42	T.	0.00	T.	0.0	0	28	2	1	nw.	U. S. Weather Bureau.
San Leandro	Alameda	48	15																	E. B. Sanford.
San Luis Obispo	San Luis Obispo	201	15	63.2	0.00	88	5	42	3	41	T.	0.00	T.	0.0	0	19	9	3	nw.	U. S. Weather Bureau.
San Mateo	San Mateo	22	36	68.4	+ 3.0	88	6	58	3†	....	0.00	0.00	0.00	0.0	0	20	0	1	nw.	Southern Pacific Co.
San Miguel	San Luis Obispo	616	23	81.1	+ 6.1	103	20	55	13	....	0.00	0.00	0.00	0.0	0	28	3	0	.....	Do.
San Miguel Island	Santa Barbara	500																		Capt. W. G. Waters.
Sanger	Fresno	371	21																	Southern Pacific Co.
Santa Barbara	Santa Barbara	130	26	65.1	0.0	84	20	49	4	31	0.02	0.00	0.02	0.0	1	25	6	0	.....	George W. Russell.
Santa Clara	Santa Clara	90	21	65.2	+ 2.2	91	6	40	2	46	T.	0.00	T.	0.0	0	29	1	1	nw.	Santa Clara College.
Santa Cruz	Santa Cruz	20	37	61.0	− 2.9	90	18	42	1†	40	0.00	− 0.01	0.00	0.0	0	25	1	5	s.	W. R. Springer.
Santa Magarita	San Luis Obispo	996	21	84.2	+13.5	104	21	65	24	....	0.00	− 0.02	0.00	0.0	0	21	4	6	sw.	Southern Pacific Co.
Santa Maria	Santa Barbara	220	22	69.1	+ 4.7	84	30	53	2†	24	T.	− 0.02	T.	0.0	0	29	0	2	sw.	L. E. Blochman.
Santa Monica	Los Angeles	110	25	61.8	− 8.1	78	7†	47	4	24	T.	0.00	T.	0.0	0	24	6	1	w.	N. D. Ingham.
Santa Rosa	Sonoma	181	21	64.1	− 3.1	95	6	40	2	49	0.00	− 0.09	0.00	0.0	0	23	8	0	sw.	M. L. McDonald, jr.
Selma	Fresno	311	24	85.4	0.0	106	18	65	3†	....	0.00	0.00	0.00	0.0	0	31	0	0	nw.	Southern Pacific. Co
Shasta	Shasta	1,049	14	80.8	− 0.9	115	9	45	1†	51	T.	− 0.01	T.	0.0	0	27	3	1	nw.	Dr. T. J. Edgecomb.
Sierra Madre	Los Angeles	1,400	13	74.4	+ 2.2	104	21	51	4	38	0.02	+ 0.01	0.02	0.0	1	27	3	1	s.	Mrs. A. E. Gregory.
Sierraville	Sierra	5,000		64.9[b]		97	9	35	23	56	0.00	.....	0.00	0.0	1	27	2	2	sw.	C. D. Johnson.
Sisson	Siskiyou	3,555	21	66.3	− 3.4	94	9	34	4	50	0.00	− 0.05	0.00	0.0	0	30	1	0	n.	Southern Pacific Co.
Soledad	Monterey	188	36	64.1	− 2.0	93	19†	45	1	....	0.00	0.00	0.00	0.0	0	31	0	0	s.	Do.
Southeast Farallon	San Francisco	30	7	52.2	.....	58	10	48	7	7	0.03	.....	0.01	0.0	3	6	4	21	nw.	U. S. Weather Bureau.
Sonora	Tuolumne	1,825	22	77.0	.....	102	20	45	3	42	0.00	− 0.02	0.00	0.0	0	30	1	0	sw.	Charles P. Jones.
Stirling City	Butte	3,525	6																	Butte County R. R. Co.
Stockton (S. H.)	San Joaquin	23	39	73.3	+ 0.7	101	8†	48	4	39	0.00	− 0.02	0.00	0.0	0	31	0	0	nw.	State Hospital.
Storey	Madera	296	10	79.6	+ 1.8	109	21	45	3	47	0.00	0.00	0.00	0.0	0	30	0	1	nw.	Santa Fe Co.
Suisun	Solano	20	30																	Southern Pacific Co.
Summerdale	Mariposa	5,270	14	69.4	+ 0.9	98	22	38	3	40	0.29	+ 0.26	0.15	0.0	3	21	7	3	.....	J. H. Lowry.

TABLE 1.—*Climatological data for July, 1910. District No. 11*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
California—Cont'd.																				
Summit	Placer	7,017	37	63.0	+ 2.0	86	9	29	5	46	1.16	+ 0.96	0.96	0.0	2	26	2	3	sw.	Southern Pacific Co.
Susanville	Lassen	4,175	21	71.0	− 0.8	98	9†	41	4†	44	0.41	+ 0.29	0.14	0.0	5	22	7	2	.....	James Branham.
Tamarack	Alpine	8,000	4	59.5	.....	83	9	31	5	41	1.90	.....	1.50	0.0	2	22	6	3	sw.	William Bennett.
Tehachapi	Kern	3,964	33	77.5	+ 1.1	96	4	61	2	....	0.00	− 0.01	0.00	0.0	0	.....	.....	.....	.....	Southern Pacific Co.
Tehama	Tehama	220	39	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.
Three Rivers	Tulare	870	....	79.7	.....	108	21	41	4	45	0.06	.....	0.04	0.0	2	26	5	0	sw.	E. D. Barton.
Towle	Placer	3,704	24	71.0	− 0.1	98	8	36	4	44	0.00	− 0.11	0.00	0.0	0	25	0	6	s.	Southern Pacific Co.
Tracy	San Joaquin	64	30	77.7	− 2.2	102	18†	60	2†	....	0.00	− 0.01	0.00	0.0	0	31	0	0	nw.	Do.
Ukiah	Mendocino	620	17	73.1	− 0.3	109	8†	44	30	39	0.00	− 0.03	0.00	0.0	0	27	4	0	nw.	Dr. George McGowen.
Upland	San Bernardino	1,750	13	74.0	+ 0.9	104	20†	42	5	50	0.00	− 0.01	0.00	0.0	0	16	14	1	w.	A. P. Harwood.
Upper Lake	Lake	1,350	25	74.3	+ 1.2	105	9	45	4	46	0.02	− 0.01	0.02	0.0	1	30	1	0	nw.	C. M. Hammond.
Vacaville	Solano	175	22	74.3	− 2.1	106	18†	46	4	49	0.00	0.00	0.00	0.0	0	16	15	0	sw.	G. O. Coburn.
Valley Springs	Calveras	673	21	77.4	− 3.6	109	18	59	15†	....	0.00	− 0.03	0.00	0.0	0	21	0	0	nw.	Southern Pacific Co.
Visalia	Tulare	334	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Santa Fe Co.
Warner Springs	San Diego	3,165	2	74.0	.....	96	19†	47	1†	39	1.61	.....	1.30	0.0	7	24	7	0	.....	Mrs. E. F. Sanford.
Wasco	Kern	336	10	79.4	− 2.5	116	19	49	4	53	0.00	0.00	0.00	0.0	0	31	0	0	.....	Santa Fe Co.
Watsonville	Santa Cruz	23	14	59.0	− 4.3	79	5	40	5†	39	0.00	0.00	0.00	0.0	0	5	20	6	se.	Spreckels Sugar Co.
Westley	Stanislaus	90	21	82.3	− 0.8	106	21	60	2†	....	0.00	− 0.03	0.00	0.0	0	20	0	1	.....	Southern Pacific Co.
Wheatland	Yuba	84	23	76.5	− 0.7	104	19†	49	4	39	T.	− 0.01	T.	0.0	0	28	2	1	s.	Wm. Lumbard.
Willows	Glenn	136	31	77.8	− 5.1	105	19	49	4	43	0.00	0.00	0.00	0.0	0	29	2	0	s.	M. T. Harrington, jr.
Yosemite	Mariposa	3,945	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. W. Tucker.

a, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
* Precipitation included in that of the next measurement.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
‡ Separate dates of falls not recorded.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
‖ Estimated by observer.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for July, 1910. District No. 11, California.*

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Oregon.																																	
Klamath Agency	Klamath			.01																	.26											0.01
Klamath Falls	do																															0.26
Lakeview	Pitt																															0.00
Long Valley	do			T.									T.		T.					.04	.05	.02										0.11
Merrill	Interior Drainage			.01																	.80											0.81
Yonna	do			.22											T.						.04	.04										0.30
California.																																	
Aguanga	Coast																.13				.06											0.19
Alameda	do																			T.												T.
Alturas	Sacramento			.01											.38					1.88	.02											2.29
Anderson	do																															
Angles Camp	San Joaquin																	T.														T.
Angiola	do																															0.00
Antioch	do																															
Aptos	Coast																															0.00
Arrowhead Springs	do																															0.00
Auburn	Sacramento																															0.00
Avalon	Ocean																	T.	T.													T.
Azusa	Coast																															0.00
Bagdad	Desert														T.																	T.
Bakersfield	San Joaquin																															0.00
Barstow	Desert													*	.21			.02		T.					.09							0.32
Bear River	San Joaquin																															
Bear Valley (1)	Sacramento																															0.00
Bear Valley (2)	San Joaquin																															
Bear Valley Dam	Coast																															
Ben Lomond	do																															0.00
Berkeley	do																															0.00
Big Bar	Sacramento																															
Biggs	do																															0.00
Bishop	Owens																															
Bishop Creek	do																									T.	.50		T.			0.50
Blocksburg	Coast																			T.												T.
Blue Canyon	Sacramento																															0.00
Blythe	Desert				T.									.08	.38	.07	.10	T.							T.							0.63
Boulder Creek	Coast																															0.00
Bowmans Dam	Sacramento																															
Branscomb	Coast																															0.00
Brawley	Desert																															0.00
Brush Creek	Sacramento																															0.00
Burney	do																															
Butte Creek House	do																															
Butte Valley	do																			.02												0.02
Calexico	Desert																					.08										0.08
Caliente	San Joaquin																															0.00
Calistoga	Coast																															
Campbell	do																			T.												T.
Campo	do													.74			1.06	.27	.90	.47												3.44
Camptonville (near)	Sacramento																															0.00
Cedarville	Mountain Lakes																			.03												0.03
Chester	Sacramento																															0.00
Chico	do																															0.00
Chico (near)	do																															0.00
China Flat	Coast																															0.00
Chino	do																															0.00
Cisco	Sacramento																															0.00
Claremont	Coast																															0.00
Clear Lake	Klamath																															
Cloverdale	Coast																															0.00
Colfax	Sacramento																															0.00
Colgate	do																															0.00
Colusa	do																															0.00
Corning	do																															0.00
Corona	Coast																															0.00
Crockers	San Joaquin																															
Cuyamaca (1)	Coast														.31	.06		T.		.03	.74						.36						1.50
Daunt	San Joaquin																.15	.11														0.26
Davisville	Sacramento																															0.00
Deer Creek	do																															0.00
Delta	do																															0.00
Denair	San Joaquin																															0.00
Descanso	Coast													.22		.15		.10		.12						.13						0.72
Dinuba	San Joaquin																															
Dobbins	Sacramento																										T.					T.
Dorris	Klamath																															
Downieville	Sacramento																															0.00
Dudleys	San Joaquin																T.	.09	.08								T.					0.17
Dunnigan	Sacramento																															0.00
Dunsmuir	do																															0.00
Durham	do																															0.00
Dyerville	Coast																															
Edgewood	Klamath	.03		.06						.18								.07		.53												0.87
Edison	San Joaquin																															
El Cajon	Coast																	.33									.01					0.34
Electra	San Joaquin																															0.00
Elsinore	Coast																				.09											0.09
Emigrant Gap	Sacramento																															0.00
Escondido	Coast																	.14									.11					0.25
Eureka	do																															0.00
Fairmont	do																	.03														0.03
Farmington	San Joaquin																															0.00
Felton	Coast																															0.00
Firebaugh	San Joaquin																															0.00
Folsom	Sacramento																															0.00
Fordyce Dam	do														.06					.08							T.					0.14
Fort Bragg	Coast																															0.00
Fort Ross	do																															
Fouts Springs	Sacramento			T.																												T.
Fredalba	Coast														.02								T.									0.02
Fresno	San Joaquin																	T.														T.
Fruto	Sacramento																															0.00
Galt	San Joaquin																															0.00
Georgetown	do																															0.00
Gilroy	Coast																															0.00

TABLE 2.—*Daily precipitation for July, 1910. District No. 11*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
California—Cont'd.																															
Gilta	Coast																														0.00
Glendora	...do														.01																0.01
Glen Ranch	...do																	T.	.10												0.10
Glennville	San Joaquin																														0.00
Glenwood	Coast																														0.00
Gold Run	Sacramento																														0.00
Gonzales	Coast																														0.00
Grass Valley	Sacramento																														0.00
Greenville	...do														T.					.35											0.35
Gridley	...do																														0.00
Groveland	San Joaquin																		.12												0.12
Guinda	Sacramento																														0.00
Hanford	San Joaquin																														0.00
Head Dam	Sacramento																														0.00
Healdsburg	Coast																														0.00
Hearst	...do			.01									T.																		0.01
Heber	Desert													T.	T.	T.															T.
Helen Mine	Coast																														
Hesperia	Desert																	.32													0.32
Holcomb	Coast														.03	.32	.25	.28			.25					.56				.77		2.46
Hollister	...do																										.06				0.06
Hornbrook	...do																														0.00
Hot Springs	San Joaquin																		.01	T.							T.				0.01
Hullville	Coast			.05																											0.05
Idyllwild	...do															.07	.10	.07	.31												0.55
Independence	Owens														T.			.18	.09			T.						T.	T.		0.27
Indio	Desert														T.																T.
Inskip	Sacramento																														0.00
Ione	San Joaquin																														
Iowa Hill	Sacramento																														
Isabella	San Joaquin																														
Jacksonville	...do																														0.00
Jamestown	...do																	.05													0.05
Jenny Lind	...do																														0.00
Johnsville	Mountain Lakes																														
Jolon	Coast															.50						.90				.95					0.00
Julian	...do																														2.35
Kennedy Mine	San Joaquin																														0.00
Kennett	Sacramento																														0.00
Kentfield	Coast																														0.00
Kernville	San Joaquin																														
King City	Coast																														0.00
Knights Landing	Sacramento																														0.00
Knob	...do												.09	T.				T.													0.09
La Grange	San Joaquin																														0.00
Lake Eleanor	...do																		.09												0.09
Lakeside	Coast																										T.				T.
La Porte	Sacramento																										T.				T.
Lathrop	San Joaquin																														0.00
Laurel	Coast																														0.00
Laytonville	...do																														
Le Grand	San Joaquin																		.20												0.20
Lemon Cove	...do																		T.												T.
Letter Box	Sacramento																														
Lick Observatory	Coast									.03										.01											0.04
Livermore	...do																														0.00
Lodi	San Joaquin																														
Lone Pine	Owens														T.				.18		T.							T.			0.18
Long Camp	San Joaquin																		.19												0.19
Long Valley	Mountain Lakes																	T.	T.	T.											T.
Lordsburg	Coast																														0.00
Los Alamos	...do																														
Los Angeles	...do																		T.					T.	.04						0.04
Los Banos	San Joaquin																														0.00
Los Burros Mine	Coast																														
Los Gatos	...do			T.																T.											T.
Los Vaqueros	...do																														
Lowe Observatory	...do																											T.			T.
Lytle Creek	...do																														0.00
McCloud	Sacramento																														
Macdoel	Klamath			.57																		.10									0.67
Madeline	Mountain Lakes			T.	.14						.58				.01				.63	.27	T.								T.		1.63
Magalia	Sacramento																														0.00
Mammoth Tank	Desert													T.	.76												T.				0.76
Mariposa	San Joaquin																		.31												0.31
Marysville	Sacramento																														0.00
Mecca	Desert																														0.00
Melones	San Joaquin																														0.00
Menlo Park	Coast																														0.00
Merced	San Joaquin																														0.00
Merced Falls	...do																														0.00
Mesa Granda	Coast																					.01					.09				0.10
Mill Creek (1)	San Joaquin																														0.00
Mill Creek (2)	Coast																														
Mills College	...do		T.																												T.
Milo	San Joaquin																														
Milton (near)	...do																		T.												T.
Modesto	...do																										T.				T.
Mojave	Desert																														
Mokelumne Hill	San Joaquin																		T.												T.
Mono Ranch	Coast																									T.					T.
Montague	Klamath																														
Monterey	Coast																														0.00
Monterio	San Joaquin																		.07												0.07
Montgomery Creek	Sacramento																														0.00
Monumental	Coast																														
Morena Dam	...do																														0.00
Mount Tamalpais	...do																														
Mount St. Helena	...do																														
Napa City	...do																														0.00
Napa (S. H.)	...do																														0.00
Needles	Desert													.15	.29																0.44
Nellie	Coast																														
Nevada City	Sacramento																														

TABLE 2.—*Daily precipitation for July, 1910. District No. 11*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
California—Cont'd.																																	
Newcastle	Sacramento																																0.00
Newhall	Coast																																0.00
Newman	San Joaquin																																0.00
Nimshew	Sacramento																																0.00
North Bloomfield	do																																
North Fork	San Joaquin																																
North Lakeport	Coast																																
Oakdale	San Joaquin																																0.00
Oak Grove	Coast												.02	.11						.04	.61						.02						0.80
Oakland	do			T.																													T.
Oakville	do																																0.00
Oceanside	do																																
Ojai Valley	do																		T.														T.
Orland	Sacramento																																0.00
Orleans	Klamath																			.08													0.08
Oroville	Sacramento																																0.00
Ozena	Coast							.25																									0.25
Palermo	Sacramento																			T.													T.
Palm Springs	Desert														.80																		0.80
Parkfield	Coast																		.04														0.04
Pasadena	do																														.02		0.02
Paso Robles	do																																0.00
Peachland	do																												T.		T.		T.
Penstock Camp	San Joaquin																																0.00
Peyton	Sacramento																																0.00
Phoenix Dam	San Joaquin																	T.															T.
Pilot Creek	Sacramento																		T.								T.						T.
Pine Crest	Coast																			T.						T.							T.
Pittville	Sacramento																																
Placerville	do																																0.00
Point Lobos	Coast															T.																	T.
Point Loma	do																		.02										.01				0.03
Point Reyes	do			T.																													T.
Polasky	San Joaquin																																0.00
Porterville	do																	.02	.02														0.04
Priest Valley	Coast																																
Quincy	Sacramento																																0.00
Red Bluff	do																																0.00
Redding	do		T.																														T.
Redlands	Coast																	.38													T.		0.38
Reedley	San Joaquin																																0.00
Represa	Sacramento																																0.00
Rialto (near)	Coast																																0.00
Rio Vista	Sacramento																										T.						T.
Riverside	Coast																																0.00
Rocklin	Sacramento																																0.00
Rohnerville	Coast																																0.00
Sacramento (1)	Sacramento																																0.00
Sacramento (2)	do																										T.						T.
Saint Helena	Coast																																0.00
Salinas	do																																0.00
San Bernardino	do																	.05	T.														0.05
San Diego	do																		.01														0.01
San Francisco	do																			T.													T.
San Jacinto	do																																0.00
San Jose	do			T.																T.													T.
San Leandro	do																																
San Luis Obispo	do																		T.														T.
San Mateo	do																																0.00
San Miguel	do																																0.00
San Miguel Island	Ocean																																
Sanger	San Joaquin																																
Santa Ana River	Coast																																
Santa Barbara	do																			.02						T.							0.02
Santa Clara	do		T.																														T.
Santa Cruz	do																																0.00
Santa Margarita	do																																0.00
Santa Maria	do																		T.														T.
Santa Monica	do																		T.														T.
Santa Rosa	do																																0.00
Sausalito	do																																0.00
Selma	San Joaquin																																0.00
Seven Oaks	Coast														0.12					.38											.88		1.38
Shasta	Sacramento		T.																														T.
Shingle Springs	San Joaquin																																
Sierra Madre	Coast																		T.							T.					.02		0.02
Sierraville	Mountain Lakes																		T.	.09													0.09
Sisquoc Ranch	Coast																																
Sisson	Sacramento																																0.00
Soledad	Coast																																0.00
Sonora	San Joaquin																																0.00
S. E. Farallon	Ocean													.01		.01									.01								0.03
Spreckels	Coast																																
Squirrel Inn	do														T.												T.						T.
Stirling City	Sacramento																																
Stockton (S. H.)	San Joaquin																																0.00
Story	do																																0.00
Suisun	Sacramento																																
Summerdale	San Joaquin																	.08	.06	.15													0.29
Summit (1)	Sacramento														.20					.96													1.16
Summit (2)	Coast																																0.00
Surrey	do																	T.								T.							T.
Susanville	Mountain Lakes			.03					.02						.10				.14	.12													0.41
Tamarack	Sacramento																	T.	.40	1.50													1.90
Tehachapi	San Joaquin																																0.00
Tehama	Sacramento																																
Three Rivers	San Joaquin																	.02	.04														0.06
Towle	Sacramento																																0.00
Tracy	San Joaquin																																0.00
Tulare	do																	T.															T.
Tustin (near)	Coast																		T.	T.													T.
Ukiah	do																																0.00
Upland	do																																0.00
Upper Lake	do		.02																														0.02

TABLE 2.—*Daily precipitation for July, 1910. District No. 11*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
California—Cont'd.																																	
Upper Matole	Coast																																0.00
Vacaville	Sacramento																																0.00
Valley Springs	San Joaquin																																0.00
Ventura	Coast																																
Visalia	San Joaquin																																
Warner Springs	Coast													.03	.01	.03		.20			.03				.01		1.30						1.61
Wasco	San Joaquin																																0.00
Watsonville	Coast																																0.00
Weaverville	Sacramento																																
Weitchpec	Klamath																																
West Branch	Sacramento																																0.00
Westley	San Joaquin																																0.00
West Point	do															T.																	T.
West Saticoy	Coast																																0.00
Wheatland	Sacramento																										T.						T.
Willows	do																																0.00
Woodleaf	do																																
Yosemite	San Joaquin																																0.00
Yuciapi	Coast																																

TABLE 3.—*Maximum and minimum temperatures at selected stations, July, 1910. District No. 11, California.*

California.

Date.	Lakeview, Oreg.		Alturas.		Barstow.		Branscomb.		Brawley.		Colusa.		Eureka.		Fresno.		Independence.		Los Angeles.		Mount Tamalpais.		Nevada City.		Porterville.		Red Bluff.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	95	55	95	55	100	69	96	56	104	72	94	58	59	51	94	57	96	61	84	62	88	62	96	58	94	54	91	66
2	96	55	96	56	104	69	98	56	106	72	96	58	59	51	96	57	98	61	84	62	88	62	98	58	96	54	94	66
3	96	56	96	56	104	69	98	56	106	72	96	58	59	51	96	57	98	61	84	62	88	62	98	58	96	54	94	66
4	96	56	96	56	104	69	98	56	106	72	96	58	59	51	96	57	98	61	84	62	88	62	98	58	96	54	94	66
5	96	56	96	56	104	69	98	56	106	72	96	58	59	51	96	57	98	61	84	62	88	62	98	58	96	54	94	66
6	96	56	96	56	104	69	98	56	106	72	96	58	59	51	96	57	98	61	84	62	88	62	98	58	96	54	94	66
7	96	56	96	56	104	69	98	56	106	72	96	58	59	51	96	57	98	61	84	62	88	62	98	58	96	54	94	66
8	96	56	96	56	104	69	98	56	106	72	96	58	59	51	96	57	98	61	84	62	88	62	98	58	96	54	94	66
9	96	56	96	56	104	69	98	56	106	72	96	58	59	51	96	57	98	61	84	62	88	62	98	58	96	54	94	66
10	96	56	96	56	104	69	98	56	106	72	96	58	59	51	96	57	98	61	84	62	88	62	98	58	96	54	94	66
11	96	56	96	56	104	69	98	56	106	72	96	58	59	51	96	57	98	61	84	62	88	62	98	58	96	54	94	66
12	96	56	96	56	104	69	98	56	106	72	96	58	59	51	96	57	98	61	84	62	88	62	98	58	96	54	94	66
13	96	56	96	56	104	69	98	56	106	72	96	58	59	51	96	57	98	61	84	62	88	62	98	58	96	54	94	66
14	96	56	96	56	104	69	98	56	106	72	96	58	59	51	96	57	98	61	84	62	88	62	98	58	96	54	94	66
15	96	56	96	56	104	69	98	56	106	72	96	58	59	51	96	57	98	61	84	62	88	62	98	58	96	54	94	66
16	96	56	96	56	104	69	98	56	106	72	96	58	59	51	96	57	98	61	84	62	88	62	98	58	96	54	94	66
17	96	56	96	56	104	69	98	56	106	72	96	58	59	51	96	57	98	61	84	62	88	62	98	58	96	54	94	66
18	96	56	96	56	104	69	98	56	106	72	96	58	59	51	96	57	98	61	84	62	88	62	98	58	96	54	94	66
19	96	56	96	56	104	69	98	56	106	72	96	58	59	51	96	57	98	61	84	62	88	62	98	58	96	54	94	66
20	96	56	96	56	104	69	98	56	106	72	96	58	59	51	96	57	98	61	84	62	88	62	98	58	96	54	94	66
21	96	56	96	56	104	69	98	56	106	72	96	58	59	51	96	57	98	61	84	62	88	62	98	58	96	54	94	66
22	96	56	96	56	104	69	98	56	106	72	96	58	59	51	96	57	98	61	84	62	88	62	98	58	96	54	94	66
23	96	56	96	56	104	69	98	56	106	72	96	58	59	51	96	57	98	61	84	62	88	62	98	58	96	54	94	66
24	96	56	96	56	104	69	98	56	106	72	96	58	59	51	96	57	98	61	84	62	88	62	98	58	96	54	94	66
25	96	56	96	56	104	69	98	56	106	72	96	58	59	51	96	57	98	61	84	62	88	62	98	58	96	54	94	66
26	96	56	96	56	104	69	98	56	106	72	96	58	59	51	96	57	98	61	84	62	88	62	98	58	96	54	94	66
27	96	56	96	56	104	69	98	56	106	72	96	58	59	51	96	57	98	61	84	62	88	62	98	58	96	54	94	66
28	96	56	96	56	104	69	98	56	106	72	96	58	59	51	96	57	98	61	84	62	88	62	98	58	96	54	94	66
29	96	56	96	56	104	69	98	56	106	72	96	58	59	51	96	57	98	61	84	62	88	62	98	58	96	54	94	66
30	96	56	96	56	104	69	98	56	106	72	96	58	59	51	96	57	98	61	84	62	88	62	98	58	96	54	94	66
31	96	56	96	56	104	69	98	56	106	72	96	58	59	51	96	57	98	61	84	62	88	62	98	58	96	54	94	66
Mean	93.0	55.4	91.9	56.4	104.6	67.4	86.3	60.6	106.2	77.3	94.7	66.1	58.4	50.9	100.3	66.0	93.9	61.9	80.5	59.9	76.9	61.2	93.1	49.8	103.3	63.3	97.5	66.5

California.

Date.	Redlands.		Sacramento.		San Diego.		San Francisco.		San Jose.		San Luis Obispo.		Santa Barbara.		Santa Rosa.		Sisson.		Stockton.		Summit.		Susanville.		Yosemite.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	94	62	92	55	86	68	68	56	70	51	82	46	74	51	94	49	88	46	94	54	82	44	82	46	88	44
2	96	62	96	56	86	68	68	56	70	51	82	46	74	51	94	49	88	46	94	54	82	44	82	46	88	44
3	96	62	96	56	86	68	68	56	70	51	82	46	74	51	94	49	88	46	94	54	82	44	82	46	88	44
4	96	62	96	56	86	68	68	56	70	51	82	46	74	51	94	49	88	46	94	54	82	44	82	46	88	44
5	96	62	96	56	86	68	68	56	70	51	82	46	74	51	94	49	88	46	94	54	82	44	82	46	88	44
6	96	62	96	56	86	68	68	56	70	51	82	46	74	51	94	49	88	46	94	54	82	44	82	46	88	44
7	96	62	96	56	86	68	68	56	70	51	82	46	74	51	94	49	88	46	94	54	82	44	82	46	88	44
8	96	62	96	56	86	68	68	56	70	51	82	46	74	51	94	49	88	46	94	54	82	44	82	46	88	44
9	96	62	96	56	86	68	68	56	70	51	82	46	74	51	94	49	88	46	94	54	82	44	82	46	88	44
10	96	62	96	56	86	68	68	56	70	51	82	46	74	51	94	49	88	46	94	54	82	44	82	46	88	44
11	96	62	96	56	86	68	68	56	70	51	82	46	74	51	94	49	88	46	94	54	82	44	82	46	88	44
12	96	62	96	56	86	68	68	56	70	51	82	46	74	51	94	49	88	46	94	54	82	44	82	46	88	44
13	96	62	96	56	86	68	68	56	70	51	82	46	74	51	94	49	88	46	94	54	82	44	82	46	88	44
14	96	62	96	56	86	68	68	56	70	51	82	46	74	51	94	49	88	46	94	54	82	44	82	46	88	44
15	96	62	96	56	86	68	68	56	70	51	82	46	74	51	94	49	88	46	94	54	82	44	82	46	88	44
16	96	62	96	56	86	68	68	56	70	51	82	46	74	51	94	49	88	46	94	54	82	44	82	46	88	44
17	96	62	96	56	86	68	68	56	70	51	82	46	74	51	94	49	88	46	94	54	82	44	82	46	88	44
18	96	62	96	56	86	68	68	56	70	51	82	46	74	51	94	49	88	46	94	54	82	44	82	46	88	44
19	96	62	96	56	86	68	68	56	70	51	82	46	74	51	94	49	88	46	94	54	82	44	82	46	88	44
20	96	62	96	56	86	68	68	56	70	51	82	46	74	51	94	49	88	46	94	54	82	44	82	46	88	44
21	96	62	96	56	86	68	68	56	70	51	82	46	74	51	94	49	88	46	94	54	82	44	82	46	88	44
22	96	62	96	56	86	68	68	56	70	51	82	46	74	51	94	49	88	46	94	54	82	44	82	46	88	44
23	96	62	96	56	86	68	68	56	70	51	82	46	74	51	94	49	88	46	94	54	82	44	82	46	88	44
24	96	62	96	56	86	68	68	56	70	51	82	46	74	51	94	49	88	46	94	54	82	44	82	46	88	44
25	96	62	96	56	86	68	68	56	70	51	82	46	74	51	94	49	88	46	94	54	82	44	82	46	88	44
26	96	62	96	56	86	68	68	56	70	51	82	46	74	51	94	49	88	46	94	54	82	44	82	46	88	44
27	96	62	96	56	86	68	68	56	70	51	82	46	74	51	94	49	88	46	94	54	82	44	82	46	88	44
28	96	62	96	56	86	68	68	56	70	51	82	46	74	51	94	49	88	46	94	54	82	44	82	46	88	44
29	96	62	96	56	86	68	68	56	70	51	82	46	74	51	94	49	88	46	94	54	82	44	82	46	88	44
30	96	62	96	56	86	68	68	56	70	51	82	46	74	51	94	49	88	46	94	54	82	44	82	46	88	44
31	96	62	96	56	86	68	68	56	70	51	82	46	74	51	94	49	88	46	94	54	82	44	82	46	88	44
Mean	94.7	60.4	88.3	56.3	71.8	62.2	62.1	50.6	79.5	51.5	74.7	51.5	74.6	55.6	80.3	47.9	86.3	46.3	89.0	57.6	79.5	46.4	89.3	52.8		

Climatological Data for July, 1910.

DISTRICT No. 12, COLUMBIA VALLEY.

EDWARD A. BEALS, District Editor.

July was the fifth consecutive month with a deficiency in precipitation, and while this month is ordinarily very dry there are usually a few days with rain in the driest sections, and moderate falls occur elsewhere. This year, however, over 100 stations reported no rain in measurable quantities, and the drought was so severe on the ranges as to cause a scarcity of feed and some suffering among stock, but no losses. The streams all became unusually low, as noted elsewhere, and navigation was suspended on the Snake River and on the upper stretches of the Willamette River. The forest floors became so dry that many fires were started, some by campers, some by lightning, some by sparks from locomotives, and in other ways until, near the end of the month, the sky was very smoky. The fires were most numerous and damaging in the Flathead country in Montana, the Colville country in Washington, and in and about the Coeur d'Alene section of Idaho. No very destructive fires occurred in Oregon, but a number of small ones broke out in the Blue Mountain Reserve in Wallowa County, and along both slopes of the Cascade Mountains, which required considerable attention, and many of them were still burning at the end of the month. In the Coast Range of Mountains the fires were mostly confined to slashings and second growth timber which burned furiously for a while without doing much damage. Most of the fires started during a dry spell between the 5th and 11th. Showery conditions prevailed on the 20th, 21st, and 22d, and many of the fires were either put out or checked at that time. Those that continued to burn, and those that started later, were aided by the dry weather which followed and at the end of the month the conditions were favorable for the spreading of the fires in all sections of the Columbia Valley. Three lives were lost by forest fires, and it is impossible to estimate the property loss which very likely has been greatly overestimated in the newspapers. It has been a long time since a season so favorable for forest fires has occurred, and that the losses are not greater is due to the organized effort that has been made to fight them, and to the laws that have been enacted with a view toward making people careful about putting out fires that have been started for necessary purposes.

TEMPERATURE.

The mean temperature, as determined from the records of 229 stations, was 67.7°, which is 0.7° above the district average. Along the coast of Oregon, and in Washington, west of the Cascade Mountains and also in the south central portion, the mean temperatures were generally below the normal. Elsewhere, with the exception of some local differences, the departures ranged usually above the seasonal average. The greatest departure below the normal was −5.5° at Fairview, Oreg., in the coast drainage area at an elevation of 142 feet, and the greatest departures above were in the extreme eastern portion of the district, where in western Montana and eastern Idaho the departures were, in some instances, as great as +3.7°, +4.2°, and +4.7°.

The warmest sections were in the central portion of the Snake River Valley, where mean temperatures of 75° to 81° occurred, and along the central portion of the Columbia River course in Washington and Oregon, where the mean temperatures were 75° to 78°. The coolest sections were along the sea coast and in the elevated portions of the interior.

The weather was relatively cool during the first five days of the month and, except in the central portion, or that part lying between the Rocky and the Cascade mountains, from the 23d to the 31st, and the minimum temperatures for the month were generally recorded during the first or third decades. In some localities in the interior freezing temperatures were recorded during these periods and frost formed. The warmest weather occurred throughout the district during the second decade, and in central sections also during the latter half of the third decade.

The highest mean temperature was 81.1° at Garnet, Idaho, on the watershed of the middle Snake, at an elevation of 2,575 feet, and the lowest was 54.0° at Tatoosh Island, in northwestern Washington, at an elevation of 86 feet. The highest recorded temperature was 110° at Garnet, Idaho, on the 13th, and also at Glenns Ferry, Idaho, on the 13th and 17th; both stations are in Elmore County, in the middle Snake basin, at elevations above 2,560 feet. The lowest recorded temperature was 22° at Range, Oreg., in the Blue Mountains at an elevation of 3,500 feet, on the 4th.

PRECIPITATION.

The average precipitation, as determined from the records of 338 stations, was 0.22 inch, which is slightly more than half an inch below the normal amount. The deficiencies were more than 1 inch in portions of the coast drainage area in northwestern Oregon, in portions of the coast and the Puget Sound drainage areas in northwestern Washington, and in the Columbia River Basin in northeastern Washington and in central western Montana. The only excesses occurred at Jacksonville, Oreg., in the Rogue River Basin, at an elevation of 1,640 feet; at La Grande, Oreg., in the Blue Mountains, at an elevation of 2,784 feet; at Ovando, Mont., near the headwaters of the branches of the Columbia, at an elevation of 4,207 feet, and at Afton and Bedford, both in Uinta County, Wyo., in the upper Snake drainage basin, at elevations of 6,200 feet and 5,900 feet, respectively. In Oregon and Washington the precipitation occurred mostly from the 14th to the 22d, inclusive, but in the eastern sections of the district the rainfall was better distributed through the month, in Idaho, western Wyoming, northern Utah and northern Nevada, the rainless periods being, approximately, from the 5th to 11th, and from the 23d to 25th, while in Montana they were from the 5th to 7th, 10th and 11th, the 19th, and 24th to 28th.

The greatest monthly precipitation was 1.77 inch at Edie, Idaho, in the Lost River Basin, and none occurred at 56 stations, while 45 stations reported only a trace. The greatest 24-hour rainfall was 1.20 inch on the 20th at Grindstone, Oreg., in the Deschutes Basin, at an elevation of 5,000 feet. A fall of 1 inch occurred on the 4th at Cottonwood Creek, Idaho, on the Boise River watershed, at an elevation of 4,000 feet.

THE RIVERS.

The deficient rainfall over the district during July is shown in the quite uniformly decreasing river stages throughout the month. Streams in many sections were lower than they have ever been known to be before, for which reason the placer mining season was shorter than usual. Some lumber mills were compelled to shut down temporarily owing to there not being sufficient water in the streams to permit the floating of logs to the mills; and in some recently constructed irrigation ditches the flow of water was insufficient for agricultural purposes, the reserve supply being inadequate on account of the marked dryness of the present summer season.

The Columbia.—With one or two exceptions the present July stages along the Columbia River were the lowest mean stages recorded in 7 years, as determined from data for those stations having long records, while at The Dalles this was the first time such a low stage was reached in July. As compared with past years' records, the average for the month ranged between 2.9

feet below the normal at Celilo and 9.7 feet below at The Dalles, while at Umatilla the departure from average conditions was −3.9 feet; at Vancouver, −5.7 feet; at Wenatchee, −5 feet, and at Northport, −6.9 feet. As compared with the height of the water during the preceding month, the mean stage was 5.5 feet lower at Vancouver, 4.5 feet lower at Umatila, 6.2 feet lower at Wenatchee, and 6.5 feet lower at Northport. The river fell quite steadily throughout the month, and the lowest stages were recorded on the 30th or the 31st. Navigation continued unimpeded throughout the month.

The Snake.—The mean of the daily stages at the several stations for the month averaged 4.4 feet below that for June, and it was 5.4 feet below the normal for July. The water continued to fall steadily throughout the month, and the lowest stages were recorded on the 31st. At Lewiston, the river fell from a stage of 3.2 feet on the 1st to one of 0.6 foot on the 31st, and the mean stage was only 1.7 foot. None of the regular steamboats operated on this river during July.

The Willamette.—The mean stage of the Willamette River ranged between 0.3 foot below the normal at Salem and 4.7 feet below at Portland, and was 0.8 foot below at Albany. The July mean stages were uniformly lower than those for the preceding month at all stations, being 0.7 foot lower at Albany, 1 foot lower at Salem, 1 foot lower at Wilsonville, and 5.3 feet lower at Portland. The greater difference as shown for Portland is due to the stage of the river at that place being influenced by the varying conditions of both the Columbia and the Willamette. As a rule there was a gradual decrease in the river stages at all stations throughout the month, the highest readings generally occurring on the 1st and the lowest on the 31st.

The upper Willamette is at the lowest stage ever kown since it has been used as a commercial highway. When the river is at a fairly good stage the boats go as far as Corvallis, usually spoken of as the "head of navigation," and during high water the steamboats are able to go through to Eugene, 52 miles above Corvallis, and 171 miles from Portland. The present low water prevents boats from making regular trips beyond Newberg, and as the time was favorable for such survey, officials of the Oregon City Transportation Company during the last of the month made the trip from Eugene to Newberg in a rowboat for the purpose of examining and recharting the shoals for the benefit of their boatmen.

MISCELLANEOUS PHENOMENA.

The prevailing winds for the month were from the west and, as a rule, the velocities were low. A strong southwest wind prevailed all over the State of Washington on the 21st; a maximum velocity of 42 miles, the highest for the month in this district, being recorded at Spokane.

The amount of sunshine received over the district was above the average for July; the percentage of possible sunshine being 76 at Portland, 65 at Seattle, and 88 at Spokane. During the first half of the month the atmosphere was clear, but later it became quite smokey, due to numerous forest fires.

Severe thunderstorms occurred in eastern Oregon and southern Idaho on the 19th, 20th, and 21st, causing a loss of two lives and considerable property. Several forest fires were started by lightning and in many cases the storms were accompanied by hail. Killing frosts were reported at a few stations in high altitudes.

NEWS ITEMS.

By EDWARD L. WELLS, Section Director, Boise, Idaho.

The contract has been let by the United States Reclamation Service for enlarging the main south side canal leading from the Boise River diversion dam to the Deer Flat Reservoir. The function of this canal is to supply lands lying directly under it and to feed the Ridenbaugh Canal and Deer Flat Reservoir. In its present condition this canal has a carrying capacity of less than 1,200 second-feet, but is to have an ultimate capacity of about 2,500 second-feet for use of the new lands of the project, requiring a bottom width of earth section of 70 feet and a height of bank above canal grade of 12 feet with 1½ : 1 side slopes.

In considering the question of enlargement of the canal to the full width, it has been found that certain of the 40-foot bottom width sections subject to excessive seepage and liability to breaks can be lined with concrete with about the same amount or less expenditure than the sections could be widened for and that such lined sections will have a carrying capacity equal to, if not greater than, the 70-foot bottom width earth sections. The total length of these sections amounts approximately to 36,000 linear feet of the canal. About 10,000 feet of the most dangerous stretches were lined during the fall of 1909, and it is proposed that the remaining distance will be completed in approximately equal amounts during the falls of 1910 and 1911, the most dangerous parts being finished this fall. With these dangerous sections of the canal lined with concrete, the canal will be in splendid condition to resist both seepage and serious interference from breaks.

With this work completed, the main canal will be able to serve the Deer Flat Reservoir and all the lands of the project as they are developed by extensions of the lateral system.

E. K. Taylor, General Manager of the Dry Creek Irrigation Project, gives the following notes relative to the same. The irrigation system contemplates the reclamation of 20,000 acres of desert land in T. 10 and 11 N., R. 24 E., B. M., as a private enterprise. Canals are already constructed to irrigate 2,500 acres of land. There is sufficient water in Dry Creek during the months of June and July, when the amount of snowfall during the preceding winter is normal, to irrigate 6,000 acres of land. The system, when completed, contemplates the construction of a storage reservoir, there being a natural reservoir site 4 miles from the land to be irrigated, where engineers estimate that a dam 150 feet high will store 42,360 acre-feet of water. The dam will be 60 feet long at the bottom, 115 feet long at a height of 100 feet, 400 feet long at a height of 128 feet, and 800 feet long at 150 feet.

Considerable attention is being given to the pumping of water for lands lying too high to be reached by gravity systems. A pumping plant has recently been installed by the Payette Heights Irrigation Company to reclaim about 4,000 acres of land just above the town of Payette, Idaho. The initial installation consists of Byron Jackson pumps driven by two 75-horsepower Fairbanks-Morse motors. It is planned ultimately to make use of 1,000 horsepower. The water is taken from the lower Payette Ditch, raised 130 feet and turned into the Payette Heights Ditch. There will be smaller units installed in the High Line Ditch to pump the water to still higher lands. The ditch and pumping plant were put in by the cooperation of the land owners. It is estimated that the water will cost about $5 per acre per season. The land to be reclaimed is in the heart of the fruit belt.

Contracts have been awarded for the construction of the Jerome Reservoir of the Twin Falls North Side project. This reservoir will have a capacity of 150,000 acre-feet and will cost, approximately, $500,000. The maximum height of the dam will be 40 feet.

The breaking of the temporary dam at Jackson Lake, Wyoming, caused some loss of water in Snake River.

A survey has recently been made for a reservoir site on Mann Creek in Washington County, Idaho, and it is reported that a satisfactory site has been found.

Plans are being made for two great irrigation systems in southern Idaho. One of these comprehends the reclamation of several hundred thousand acres in the Bruneau Valley by an extension and enlargement of the Twins Fall Canal. The water is to be provided by impounding the flood waters of Snake River in a gigantic reservoir above American Falls.

Another looks to the reclamation of a still larger tract lying between Boise and Mountainhome, with water stored at the head of the Salmon River and brought under the Sawtooth Mountains in a tunnel.

The United States Reclamation Service is making extensive surveys and test borings for reservoir sites in the Boise watershed to augment the water supply for the Payette-Boise project.

The question of drainage of irrigated lands is engaging the attention of engineers in southern Idaho. The United States Reclamation Service is constructing a drainage system for the North Side Minidoka Project, near Rupert, and steps are being taken to attend to the matter of drainage in the Pioneer Irrigation District. In close connection with this is the problem of water conservation. Mr. Don H. Bark, of the United States Department of Agriculture, is conducting an elaborate system of experiments looking to a more economical use of water.

Several small power plants are being constructed on the Payette River in Long Valley. One of these, at Tamarack Falls, will supply power to the town of Roseberry, and another at Van Wyck Falls will furnish power for Van Wyck, Crawford, and Thunder City.

REPORT ON THE ANNUAL RISE IN THE COLUMBIA RIVER, 1910.

By T. F. DRAKE, Assistant Observer, Portland, Oreg.

There are two principal causes that operate to produce the annual spring rise in the Columbia River: The accumulated depth of the winter's snow in the mountains and foothills at the close of the cold season, and the effect of the subsequent temperatures upon the melting of this snow. An abundance of snow in the higher levels at the end of winter, and an early spring with steady warm or mild weather, will obviously cause an earlier annual rise of approximately shorter duration, and higher river stages than usual, while, under similar snowfall conditions, if the temperatures of spring are divided into periods of alternately warm and cool spells, it is evident that the annual rise will extend through a longer period of time and the maximum stages reached will not be so great.

TABLE 1.—*Monthly and seasonal snowfall at selected stations.*

	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Seasonal.
Montana.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
Bison Mountain	21.7	35.2	19.0	73.5	12.0	6.0	188.2
Fortine	2.5	16.0	14.8	22.0	2.0	T.	57.3
Hat Creek	10.3	17.9	9.6	29.9	2.3	4.5	83.7
Kalispell	4.1	9.1	8.8	19.1	4.1	2.1	47.3
Ophir	9.0	10.0	0.5	8.5	1.0	4.0	41.5
Philipsburg	6.3	4.3	9.5	24.7	T.	2.0	49.8
Saint Ignatius	2.0	6.2	4.2	20.6	T.	0.5	33.7
Saint Regis	3.6	3.3	11.4	38.7	0.0	0.0	57.0
Saltese	3.0	21.0	50.0	72.5	14.0	5.0	165.5
Idaho.							
Blackfoot Dam	14.4	17.5	24.0	25.0	6.0	1.0	87.9
Burke	19.5	23.0	58.5	89.0	13.0	9.5	212.5
Loon Creek	8.0	14.0	22.1	25.3	4.5	0.5	74.4
Edie	10.0	9.0	21.0	40.0	0.0	4.0	84.0
McCall	11.2	30.5	30.0	23.0	3.0	0.0	97.7
Silver City	17.4	26.5	15.9	30.1	1.2	T.	91.1
Pine	5.0	40.0	48.6	24.0	0.0	.....	117.6
Pyle Creek	6.9	32.3	61.5	48.8	0.0	T.	149.5
Average	9.1	18.6	24.1	36.2	3.7	2.4	96.4

Reports received early in April from Weather Bureau sources indicated that the snowfall at the headwaters of the Snake River, in Idaho and Wyoming, and at the headwaters of the branches of the Columbia in Montana during the winter had been heavier than usual, while reports from the Canadian Meteorological Service showed less than the usual amount for the winter over the Columbia River watershed in British Columbia. The accompanying table shows the snowfall conditions that obtained at selected stations in Montana and Idaho during the principal snowfall months. The comparatively heavy snowfall of December, January, and February especially, is here shown, and it will be noted that the accumulated snow on the ground at the end of February was only about 6 inches less than the total snowfall for that month. A study of Tables 1 and 2, in connection with Table 3, will be very interesting, since the chief conditions affecting the river stages are indicated in the tables in a manner that permits of their being readily seen and appreciated. It should, however, be borne in mind that the figures given for the depth of the snow blanket at the end of March, and also at the end of April, do not represent the amount of snow gathered in drifts in the canyons and ravines in the higher levels; otherwise it might be difficult to explain satisfactorily why the highest river stages occurred this year in May. It may be mentioned that snow fell in some localities as late as May in considerable quantities.

TABLE 2.—*Accumulated depth of snow on ground at end of month.*

	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Montana.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches*
Bison Mountain	6.0	27.0	20.0	48.0	12.0	0.0
Fortine	0.0	5.0	T.	4.0	0.0	0.0
Hat Creek	0.4	12.5	7.0	18.0	0.0	.....
Kalispell	0.0	2.2	0.0	6.3	0.0	0.0
Ophir*	.....	.....	.....	.....	.....	.....
Philipsburg	0.0	2.5	2.0	10.0	0.0	0.0
Saint Ignatius	0.0	0.0	0.0	3.0	0.0	0.0
Saint Regis	.....	0.5	10.0	8.5	0.0	0.0
Saltese	0.0	14.0	30.0	68.0	24.0	0.0
Idaho.						
Blackfoot Dam	6.8	23.0	24.0	34.0	5.0	0.0
Burke	0.0	15.0	39.0	76.0	5.0	0.0
Loon Creek	4.0	13.0	18.5	31.0	0.5	0.0
Edie	5.0	9.0	30.0	16.0	0.0	0.0
McCall	T.	29.0	36.0	55.0	24.0	0.0
Silver City	0.0	2.0	11.8	30.0	0.0	0.0
Pine	0.0	25.0	34.0	36.0	0.0	.....
Pyle Creek	0.0	17.5	31.0	40.0	0.0	0.0
Average	1.5	12.3	18.3	30.2	4.4	0.0

* No record.

In all sections the weather during March was comparatively mild, the temperatures being uniformly above normal, and much of the snow in the higher levels melted, while at low and moderate elevations the snow generally had all disappeared by the end of the month. The snow remaining in the mountains at the close of the month was well packed and in a favorable condition for slow melting and a gradual run-off later. The heavy rains of February and early March, combined with the abnormally warm weather of the latter month, resulted in unusually high water in all streams, and flood conditions obtained in many sections. As a consequence there was much apprehension among interested people, particularly wholesale firms located in the lower sections of Portland, farmers engaged in cultivating the lowlands along the lower Columbia, fishermen, and logging and lumber companies operating along the lower course of this river or its tributaries, fears being entertained that these earlier floods were indicative of a greater annual rise that probably would equal, if not exceed, the highest stages recorded. These fears were, however, partially allayed by our reports to the effect that much of the snow was already melted, while that remaining in canyons and ravines, and at high elevations, was favorably conditioned for melting slowly, consequently resulting in a gradual run-off.

Table 3 shows the temperature and precipitation conditions that obtained in those sections whose weather most strongly influences the volume of water in the Snake and the upper Columbia rivers, and hence contributes most to the variable stages of the lower Columbia.

TABLE 3.—*Temperature and precipitation of the northern Plateau and northern Rocky Mountain region, winter of 1909–10.*

Year and month.	Temperature.		Precipitation.	
	Mean.	Departure.	Average.	Departure.
1909.	° *F.*	° *F.*	*Inches.*	*Inches.*
November	40.4	+3.3	2.72	+0.14
December	23.3	−6.8	1.24	−0.04
1910.				
January	25.3	−1.6	1.36	+0.02
February	25.5	−4.6	1.63	+0.01
March	46.9	+8.4	0.99	−0.04
Mean	32.2	−0.3	1.39	+0.02

As will be seen by the above table, the precipitation over the section under discussion was considerably above the average for November, but the weather was abnormally warm and a greater portion than usual of the precipitation fell as rain, and it was instrumental in increasing the volume of water in the Snake and the Columbia rivers above the monthly average. The November snowfall contributed but little to the winter's accumulated depth, but in January and February, with more than the usual amount of snowfall and temperatures below the normal, the snow depth increased probably beyond the usual amount. Spring opened earlier than usual, and March with temperatures much above the normal, caused, as already mentioned, the snow in exposed places to melt rapidly, resulting in high water in all streams during that month, and causing apprehension for an unusual volume of water in the Columbia during the annual rise.

April was exceptionally warm, and the mountain snows continued to melt rapidly; and as will be seen by the accompanying hydrograph, the Columbia and the Snake rivers began to rise in their lower courses about the 7th and continued to rise without any marked interruption until the end of the month. The flood stage, however, was not reached at any of the gaging stations, although at Vancouver, Wash., the gage registered only 0.1 foot short of the flood stage, and at Portland, on the Willamette, backwater from the Columbia caused a stage of 16.3 feet, which is 1.3 foot above the flood stage. Backwater affects the stage of the Willamette at Portland to such an extent that there is a marked similarity in comparative stages of the two rivers at Vancouver and Portland, respectively; hence the flood crests at Portland, as given in Table 4, show quite accurately the stages of the lower Columbia throughout its course.

TABLE 4.—*Flood crests at Portland, Oreg., during annual rise of Columbia River.*

Year.	Stage.	Year.	Stage.	Year.	Stage.	Year.	Stage.
1879	19.3	1887	25.7	1895	16.3	1903	24.0
1880	27.3	1888	18.2	1896	23.8	1904	20.8
1881	19.7	1889	10.0	1897	23.7	1905	13.6
1882	26.1	1890	20.1	1898	20.7	1906	13.4
1883	17.8	1891	14.1	1899	24.2	1907	19.2
1884	20.2	1892	19.3	1900	17.8	1908	21.2
1885	14.5	1893	22.0	1901	20.8	1909	21.4
1886	20.0	1894	33.0	1902	20.7	1910	19.1

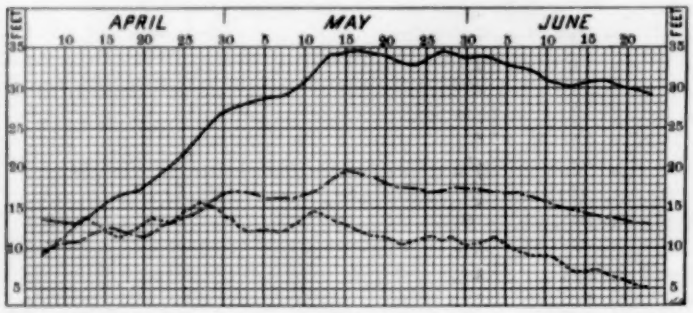


FIG. 1.—Hydrograph showing successive stages of the Columbia and Snake rivers at three representative stations in District No. 12.
———— Wenatchee, Wash., Columbia River.
— — — — — Vancouver, Wash., Columbia River.
- - - - - - - - - Lewiston, Idaho, Snake River.

The highest stages along the Snake River were reached during the last 3 days of April, but there was a secondary rise during the first half of May, which increased the stages along the lower Columbia, and the highest stages along the Columbia River were generally recorded on May 14 to 16. The following table shows the highest recorded stages, with dates of occurrence at all stations on the Snake and Columbia rivers.

River navigation was not materially interfered with during the rise, except from May 12 to 18, inclusive, when the highest stages were recorded along the lower Columbia. At this time the current was so strong at Cascade Locks that boats, full-freighted, could not ascend the river, and were compelled to return to Portland and discharge a portion of their cargoes before passing the locks. The locks close at a stage of 34 feet, as registered at The Dalles, and a stage of 31 feet at the last-named point gives a current too strong for boats of the present type to overcome; more powerful boats would, however, have experienced no difficulty in making regular trips during this time. Navigation on the Snake River is never impeded by high water.

TABLE 5.—*Annual rise Columbia River, 1910, highest water and dates of occurrence.*

Stations.	Height	Date.	Stations.	Height	Date.
Weiser	10.5	April 28, 29, 30.	Kennewick	16.5	May 14.
Lewiston	15.6	April 27.	Umatilla	19.9	May 14.
Riparia	14.8	April 28.	Celilo	16.3	May 14.
Bonners Ferry	24.4	May 12.	The Dalles	33.1	May 14.
Newport	15.7	May 16, 17, 18.	Cascade Locks	25.9	May 15.
Northport	22.9	May 29, 30.	Vancouver	19.6	May 15, 16.
Wenatchee	34.8	May 16, 27.	Portland	19.1	May 15, 16.

Throughout the rise the stages of the river at Portland were quite accurately foretold, and, acting on this timely information, perishable goods were removed to places of safety, and other precautionary measures were taken to minimize the danger as far as the interests affected were concerned. As no reported damage occurred, it is obvious that the warnings have been of great value in protecting property interests. At Portland the river was above the flood stage from April 28 to June 10, a period of 43 days, and at highest water was 4.1 feet above that stage.

FROST FIGHTING IN THE BOISE VALLEY.

By EDWARD L. WELLS, Section Director

The spring of 1910 was a favorable one for the fruit growers in the Boise Valley, and an unfavorable one for making experiments in protecting crops from frost. There was but one serious frost, and partly because of extensive use of orchard heaters, and partly because of the fact that this frost came so early (April 15) that the buds and blossoms of commercial fruits had not yet reached the most tender stage, little damage resulted.

For the first time in the history of the valley, oil heaters were used by fruit growers. They were purchased in car lots, as was also the fuel oil for use in them. The Weather Bureau was in constant touch with the growers, rendering valuable assistance in critical times, but could have been of much greater assistance had the growers themselves been better organized. The office was kept open all night on 11 nights, and part of the night on a number of others. The plan was to keep open whenever there was any cause for uneasiness, and this plan saved the growers much time and energy in watching, and a considerable amount of material.

On the night of April 14–15, Mr. Arthur W. Garrett, formerly an assistant observer in the Weather Bureau, and now manager of the Garret Mercantile Company, at Meridian, 10 miles west of Boise, spent the night in the orchard of Mr. W. N. Yost. He has kindly furnished this office with a report of his observations, extracts from which are given below:

The first observation of temperature, at 12:30 a. m., showed a reading of 28°. Several observations were taken between 12:30 and 2:30, the temperature flutuating considerably, probably due to changes in the direction of the wind. The readings varied from 26° to 31°. While the wind shifted considerably during the night, it was generally from a westerly direction during the fore part of the night, and from an easterly direction during the latter part. There was a noticeable breeze at times, but toward morning it was generally quiet.

At 2:30 a. m. the lighting of the pots was commenced, at which time the temperature in the orchard stood at 26°. At first only about half the pots were lighted, the lids being pulled back about one-third. Several observa-

tions were taken during this period, the readings remaining practically uniform at 26°. At 4 a. m. the temperature dropped suddenly to 23°. By this time all the pots were lighted and the lids were opened back halfway, and the smoke in the orchard became very thick and did not drift much.

At 5 a. m. the temperature outside the orchard stood at 22°, while at the same time the temperature in the orchard ranged from 26° to 29°. Several readings were taken in different parts of the orchard between 4:30 and 5 a. m., the readings varying somewhat with the exposure. On the windward side the temperature was only slightly above that observed outside the orchard, while on the leeward side it was from 5° to 7° higher. A marked difference was noted in the readings at different elevations. On the ground in the orchard the readings were but slightly above the outside readings, while at an elevation of 3 or 4 feet it was from 3° to 4° higher. Up in the trees, among the blossoms, I obtained several readings of 32°, and some as high as 34°. At this time the reading outside the orchard was as low as 20° A heavy frost formed on the grass in the orchard, and ice formed even inside the fruit buds.

It became apparent to me that the smudge pots were not lighted as soon as they should be, and it took too long to get them all lighted. Thus the temperature was allowed to get too low before any appreciable amount of heat was generated. With the pots only one-third open, the temperature was raised but little, but when they were opened wider the temperature immediately began to rise.

A minimum temperature of 19° was registered outside the orchard, but I do not believe the temperature in the trees among the blossoms fell below 25°. At the height of the effect of the smudging temperatures of from 28° to 34° were maintained among the blossoms.

Reports, more or less fragmentary, were received from a number of growers, all indicating that beneficial results had been obtained, but in no other orchard were careful observations made.

The temperature did not fall so low again during the spring, and no opportunity was presented later for studying the effect of smudging under severe conditions.

The writer spent the night of May 15-16 in the orchard of the Manville Fruit Company, near Ustick. About 1 a. m. the temperature began to rise and it remained above 40° till after 4 a. m. Although it was evident that no damage would result from the frost, Mr. Hurst, the manager of the orchard, kindly offered to fire up the pots on an acre of ground (100 pots), in order to enable me to make some comparative readings. While this was being done the temperature fell rapidly, and by 5:30 a. m. it had fallen to 32° in the lowest part of the orchard and heavy frost was forming on the grass. Comparative readings were taken in and out of the heated area at frequent intervals for about one hour. These were rather unsatisfactory, owing to the fact that there was considerable difference in the sensitiveness of the different thermometers in use, and the heated area was too small for best results. However, the readings seemed to indicate that over the heated area the temperature was about 4° higher than elsewhere. No frost formed on the grass in the heated area, while over most of the remainder of the orchard there was a considerable deposit of frost.

Such investigations as it has been possible to make lead to the following conclusions:

1. Orchard heating in the Boise Valley is entirely practicable, and by its intelligent use serious loss from frost can be practically eliminated.

2. To achieve the best results there should be a strong local organization cooperating with the Weather Bureau, and action should be taken to plant orchards in large blocks, the larger the better.

3. By means of a large number of standard thermometers placed among the growers, and mounted in a uniform manner, a thorough temperature survey of the valley would be possible. On cold nights the association of growers would therefore be able to report to the Weather Bureau at frequent and regular intervals, the temperature at representative places in the valley.

4. The temperature readings at the Weather Bureau station, being from thermometers mounted 78 feet above the ground, are of little value in determining conditions in the orchards, there being at times differences of 10° or more between these readings and the actual temperatures in the orchards. Arrangements should be made for a sod exposure of the thermometers, or at least for an extra set with such an exposure, on the lawn near the office, for the better information of the Weather Bureau office in determining the probability of frost.

5. The matter of wind direction and velocity plays such an important part in the frost problem that it is believed that a wind record should be kept at some point in the heart of the orchard region.

The following extracts from letters received from representative fruit growers may be of interest:

We found the heaters absolutely essential when the low temperatures came. As a result of their use we have saved the entire crop, so much so that it has been necessary to thin, and thin heavily. We feel that the cooperation of you and your office had as much to do with our frost fighting success as the use of the heaters themselves.—*Olin M. Kiggins.*

I have found the Weather Bureau, under your direction, a great help to me in the past year. * * * I have come to depend greatly upon your advice. The data that you gave us concerning the rising and falling of the temperature in the latter part of the night during April and May helped us to know when to light our smudge pots and thus proved a saving to us of both strength and oil. * * * I feel that if the farmers would cooperate with you in reporting the conditions hourly during the night all over the valley much more benefit might be received. * * *—*B. F. Hurst, Manager, Manville Fruit Company.*

I have no criticism whatever on the work of the Weather Bureau in our behalf this year. For the director to be at his station night after night for a week at a time was certainly appreciated by the fruit growers of the Boise Valley. For my part, I was in close touch with the station and for several nights every hour, and the station reports saved me at least 3 heatings, or rather lightings of the pots.—*W. N. Yost.*

TABLE 1.—*Climatological data for July, 1910. District No. 12, Columbia Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Montana.																				
Anaconda	Deer Lodge	5,300	9	64.8	+ 1.4	93	14	37	9	41	0.84	.....	0.42	0.0	7	20	7	4	.....	C. D. Demond.
Bison Mountain	Powell	7,240	1								0.56		0.23	0.0	9	17	13	1	.....	C. H. Anderson.
Butte	Silver Bow	5,716	15	68.4	+ 4.7	92	18	40	9	40	0.50	− 0.78	0.35	0.0	3	21	3	7	w.	J. R. Wharton.
Columbia Falls	Flathead	3,100	16																	Mrs. I. M. Kennedy.
Como**‡	Ravalli		2	69.2	.....	96	11†	46	5†	49	1.13	.....	0.63	0.0	6	22	7	2	.....	Hiram Platt.
Dayton	Flathead	2,800	6	67.0	.....	98	14†	40	5	51	0.30	.....	0.30	0.0	1				.....	Charles Frost.
East Anaconda‡	Deer Lodge	5,500	5	66.6	.....	93	14	40	11	38	0.84	.....	0.35	0.0	7	27	4	0	nw.	C. D. Demond.
Fortine	Lincoln	2,975	4	63.0	.....	96	14†	30	27	57	0.36	.....	0.18	0.0	3	21	9	1	w.	Mike Petery.
Hamilton	Ravalli	3,575	7	69.0	.....	95	17†	43	11	40	1.05	.....	0.67	0.0	4	21	9	1	s.	Bitter Root Valley Ir. Co.
Hat Creek	Powell	6,000	1								1.08		0.44	0.0	7	15	14	2	w.	M. K. Landreth.
Kalispell	Flathead	2,965	11	66.6	+ 2.3	95	17	44	5	43	0.43	− 0.41	0.21	0.0	4	19	11	1	w.	U. S. Weather Bureau.
Lost Creek	Deer Lodge	5,200									0.50		0.35	0.0	2	21	9	1	sw.	Frank Henault.
McGinnis Meadows	Lincoln			64.4°		98°	14	35°	27	57	0.24		0.16	0.0	2	15	11	1	sw.	H. L. Beebe.
Missoula	Missoula	3,225	32	71.0	+ 3.7	102	14	42	5	50	0.13	− 0.99	0.09	0.0	4				sw.	U. S. Weather Bureau.
Ophir	Powell	8,800	1								1.17		0.61	0.0	6	18	10	3	w.	E. S. Wilton.
Ovando	...do	4,207	10	58.9	− 1.6	94	14	32	9†	53	1.16	+ 0.03	0.40	0.0	5	1	30	0	w.	S. B. Muchmore.
Philipsburg	Granite	5,275	7	65.3	.....	98	13†	40	4†	52	0.62	.....	0.41	0.0	5	28	3	0	sw.	G. T. Bramble.
Plains	Sanders	2,475	12	68.4	+ 2.4	95	14†	38	9	44	0.35	− 1.16	0.30	0.0	2	27	2	2	sw.	M. H. Pierce.
Pleasant Valley	Flathead	3,500	3	59.3	.....	94	14†	24	26	65	0.24	.....	0.20	0.0	2	15	16	0	.....	A. D. Stillman.
Polson	...do	2,920	2	71.2	.....	98	17	48	9	41	0.16	.....	0.12	0.0	2				.....	F. P. Brown.
St. Ignatius	Missoula	2,700	4	68.6	.....	100	17	41°	28	50°	0.29	.....	0.08	0.0	6	26°	2°	2°	n.	U. S. Reclamation Service.
St. Regis	...do	2,650	2	65.3	.....	100	14	32	26	59	0.36	.....	0.23	0.0	2	13	17	1	ne.	R. D. Lee.
Saltese	...do	3,600	6								0.25	.....	0.25	0.0	1	30	1	0	s.	E. K. Tarbox.
Snowshoe	Lincoln	4,500	4	63.0	.....	89	16	40	1	38	0.73	.....	0.65	0.0	2	22	6	3	w.	J. C. Riter.
Troy	...do	1,880	14	65.2	+ 0.9	100	16	34	5†	53	0.45	− 0.90	0.45	0.0	1	28	0	3	sw.	W. E. Milnor.
Upper Lake McDonald	Flathead	3,200	2	62.2	.....	96b	16	44b	5†	46b	0.54	.....	0.43	0.0	2	14b	12b	3b	s.	F. F. Liebig.
Willow Glen Stock Farm‡	Deer Lodge		1	63.4	.....	89	13†	36	8	42	1.09	.....	0.40	0.0	6	13	15	3	nw.	G. E. Luce.
Wyoming.																				
Afton	Uinta	6,200	6	63.0	+ 2.4	91	14	31	5	51	1.66	+ 0.22	0.35	0.0	7	28	3	0	s.	A. U. Call.
Alta	...do	7,000	1	61.2		87	19	26	23	50	0.71		0.28	0.0	7	15	16	0	sw.	Mrs. Lucy Brown.
Bedford	...do	5,900	10	61.5	+ 1.5	88	14†	31	5	50	0.92	+ 0.18	0.40	0.0	7	24	4	3	w.	C. G. Heiner.
Snake River	Yellowstone Park	7,000	4	59.5	.....	90	14	29	6†	54	1.40	.....	0.70	0.0	4	11	18	2	w.	U. S. Army.
Nevada.																				
San Jacinto	Elko		5	66.6	.....	94	18	28	4†	51	0.62	.....	0.41	0.0	3	15	13	3	sw.	Moses Jones.
Utah.																				
Standard	Boxelder		6	68.8	.....	90	25	45	5	37	1.75	.....	0.80	0.0	6	16	10	5	sw.	T. B. Jones.
Idaho.																				
Albion	Cassia		9	70.8	.....	99	13	36	6	56	0.56	.....	0.20	0.0	4	27	2	2	w.	G. A. Axline.
Almo	...do		3								0.20	.....	0.10	0.0	2	25	6	0	s.	Wm. L. Eames.
American Falls	Oneida	4,341																		O. H. Barber.
Blackfoot	Bingham	4,503	15	69.3	+ 0.7	95	18†	40	5†	54	0.21	− 0.28	0.21	0.0	1	19	12	0	sw.	E. A. Dowd.
Blackfoot Dam	...do		2	64.0	.....	90	13†	35	5†	50	1.02	.....	0.58	0.0	3	21	8	2	w.	N. W. Irsfield.
Bock's Ranch	Elmore	3,500																		William Bock.
Bogus Creek	Boise	4,200																		F. P. Ingraham.
Boise	Ada	2,739	25	76.0	+ 3.2	103	13	50	23	40	T.	− 0.18	T.	0.0	0	22	6	3	nw.	U. S. Weather Bureau.
Bonners Ferry	Bonner	1,850		65.4	.....	99	16	39	14†	55	0.46	.....	0.28	0.0	4	19	11	1	sw.	W. H. Heideman.
Boulder Mine	Boise	4,800	2								0.34		0.19	0.0	4	27	3	1	.....	Patrick Moriarty.
Buhl	Cassia	3,800	5	77.4°	.....	102°	12	48°	4	49°	0.28	.....	0.20	0.0	2				w.	H. J. Idema.
Burke	Shoshone	4 082	4	60.8	.....	93	16	33	23	47	0.25	.....	0.20	0.0	2	18	12	1	sw.	W. Alvin Hall.
Caldwell	Canyon	2,372	6	73.8	.....	101	13	45	23	48	T.	.....	T.	0.0	0	21	10	0	w.	Prof. Wm. J. Boone.
Camas	Fremont	4,813	2	71.2°	.....	99°	18	25°	24	61°	0.93	.....	0.70	0.0	4				sw.	Mrs. Edna Faulkner.
Cambridge	Washington	2,651	14	75.7	+ 3.3	103	13	45	6	54	0.15	− 0.18	0.08	0.0	2					Chas. H. Shepherd.
Cedar Creek Dam	Twin Falls										0.04		0.02	0.0	2	20	2	9	s.	H. R. Collins.
Chesterfield	Bannock	5,424	15	65.2°	+ 3.2	97°	18	32°	6	58°	0.44	− 0.03	0.20	0.0	4	11	17	3	sw.	Chas. S. West.
Coeur d'Alene	Kootenai	2,157	20	69.8	+ 2.9	96	16†	45	1†	46	0.11	− 0.58	0.06	0.0	2	28	0	3	.....	Jos. T. Scott.
Cottonwood Creek	Boise	4,000									1.20		1.00	0.0	2					Frank Hedrick.
Crawford	...do	4,300																		Mrs. Gertrude Kerby.
Culdesac	Nez Perce	1,520	3	71.3	.....	99	15†	40	4	52	0.00	.....	.....	0.0	0	26	5	0	.....	R. R. Richmond.
Deary	Latah																			H. M. Call.
Dent	Nez Perce	1,350	6	69.7	.....	102	14	40	27†	60	0.62	.....	0.01	0.0	2	24	7	0	.....	Emil Schuessler.
Driggs	Fremont	6,097	3	63.5	.....	88	14	32	23	46	0.80	.....	0.50	0.0	2	14	10	7	sw.	Walter H. Durrant.
Edie	...do		2	64.0	.....	88	14†	36	6	46	1.77	.....	0.78	0.0	4	26	5	0	s.	Geo. B. Edie.
Edwardsburg	Idaho	4,500																		W. A. Edwards.
Emmett	Canyon	2,350	4	76.6b	.....	104b	13†	42b	23	52b	0.12	.....	0.12	0.0	1				nw.	C. P. Kar.
Flowers	Blaine																			U. S. Forest Service.
Forney	Lemhi		13	65.0	+ 4.2	96	15†	32	23	57	0.70	− 0.39	0.55	0.0	2	12	9	10	sw.	M. B. Merritt.
Garden Valley	Boise	3,600	4								0.27		0.20	0.0	2	20	11	0	.....	Mrs. Gertrude M. Ross.
Garnet	Elmore	2,575	11	81.1	+ 1.8	110	13	49	5	48	0.00	− 0.13	.....	0.0	0	23	6	2	e.	Asa A. Kenison.
Glenns Ferry	...do	2,569	3	79.0	.....	110	13†	41	5	59	0.18	.....	0.16	0.0	2	27	2	2	nw.	I. E. Perkins.
Gooding	Lincoln	3,572	2	74.2	.....	104	13†	40	5	49	0.24	.....	0.10	0.0	4	23	6	2	w.	John Krall, jr.
Grand Forks	Shoshone	3,000																		Henry Kottkey.
Grandview	Owyhee		2	79.5°	.....	106°	13	47°	23	53°	0.18	.....	0.10	0.0	2				nw.	N. G. Massey.
Grimes Pass	Boise	5,200	2								0.54		0.51	0.0	2					Joseph M. Clarke.
Guffey	Owyhee	2,381	2	80.2	.....	107	13	51	5	43	0.57	.....	0.47	0.0	3	24	6	1	w.	Fred Perry.
Hailey	Blaine	5,347	7	71.0	.....	98	14†	39	5	48	0.27	.....	0.10	0.0	5	26	2	3	sw.	U. S. Forest Service.
Hotspring	Owyhee	2,752	5	77.1°	.....	106	13	48°	5	44°	T.	.....	T.	0.0	0	21	10	0	.....	J. M. Waterhouse.
Idaho City	Boise	4,000																		Mrs. Emma L. Hammer.
Idaho Falls	Bingham	4,742	16	70.8	+ 3.1	96	13	41	5†	46	0.11	− 0.42	0.05	0.0	3	20	7	4	ne.	Dr. T. M. Bridges.
Indian Valley	Washington	2,999																		W. E. Henke.
Irwin	Bingham	6,500	2	67.8	.....	98°	18	35	23	52°	1.11	.....	0.65	0.0	5	16	10	5	ne.	Eva Johnston.
Kellog	Shoshone	2,305		66.1	.....	99	16	39	27†	54	0.06	.....	0.04	0.0	2	28	2	1	sw.	W. McM. Huff.
Kirkham	Boise										0.25		0.25	0.0	1	20	5	6	w.	Mrs. Josie B. West.
Kooskia	Idaho	1,261	1	71.6	.....	105	16	45	5†	53	0.04	.....	0.04	0.0	1				w.	U. S. Forest Service.
Lakeview	Bonner	2,250	14								0.40	− 0.67	0.40	0.0	1					E. D. Faust.
Landore	Washington	5,300		64.6		92	19	36	23	44	0.21		0.21	0.0	1	20	11	0		Mrs. Emma L. Brown.
Lewiston	Nez Perce	757	17	75.6	+ 2.0	103	16	52	1	42	0.10	− 0.32	0.10	0.0	1	18	10	3	e.	U. S. Weather Bureau.
Little Camas	Elmore	5,000	2								0.22		0.18	0.0	2	9	22	0	w.	Solon McCoy.
Long Gulch	...do	4,500	2								0.20		0.20	0.0	1	16	15	0	.....	Mrs. Elizabeth A. Hjort.
Loon Creek	Custer	6,000																		U. S. Forest Service.
Lost River	Blaine	5,700																		Mrs. Mary L. Lemon.
Lowry	Owyhee		2	72.1	.....	99	13	39	10	51	1.12	.....	0.55	0.0	4	20	9	2	se.	W. D. Winter.
McCall	Boise	5,025	5	62.1	.....	92	24	28	2	60	0.10	.....	0.10	0.0	1	29	2	0	s.	Will Newman.
Mackay‖	Custer	5,897	3	69.1	.....	94	17†	40	4	48	0.35	.....	0.15	0.0	3	24	0	7	nw.	U. S. Forest Service.
Meadows	Washington	3,950	8	66.9	.....	98	13†	34	23	56	0.39	.....	0.34	0.0	3	16	13	2	.....	Chas. A. Hackney.
Mesa	...do	3,275	....	76.0	.....	101	13	44	23	44	0.44	.....	0.28	0.0	2	21	7	3	n.	Elias Nelson.
Middle Fork	Idaho	1,250																		Joseph McGhee.
Milner	Cassia	4,200	7	75.1	.....	103	13	41	5	46	0.60	.....	0.41	0.0	6	13	17	1	nw.	J. H. Henry.

TABLE 1.—*Climatological data for July, 1910. District No. 12*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Idaho—Cont'd.																				
Moscow	Latah	2,748	18	67.0	+ 0.4	94	16	40	23	44	T.	− 0.78	T.	0.0	0	20	7	4	w.	University of Idaho.
Mountainhome	Elmore	3,150	5	73.0	.....	102	16	39	5	53	T.	.....	T.	0.0	0	21	7	3	nw	Mrs. Ellen Manion.
Murtaugh	Cassia	.....	4	71.2	.....	97	13	38	5	46	0.71	.....	0.35	0.0	3	21	10	0	w.	J. E. Steinour.
Nez Perce	Nez Perce	3,182	2	63.5	.....	96	16	33	27	55	0.08	.....	0.08	0.0	1	21	4	6	nw.	P. Mitchell.
Oakley	Cassia	4,700	18	73.4	+ 2.7	105	27	42	5	45	0.35	− 0.06	0.20	0.0	3	17	13	1	s.	John Adams.
O'Hara Bar	Idaho	1,400	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. D. Agnew.
Orofino	Nez Perce	1,027	6	71.3	.....	101	19	43	22†	52	0.05	.....	0.05	0.0	1	28	2	1	.....	Geo. Alteneder.
Payette	Canyon	2,159	20	75.5	+ 1.6	107	13	44	23	53	0.02	− 0.31	0.02	0.0	1	22	7	2	n.	E. F. Allen.
Peaceful Valley	....do	2,380	.....	78.8	.....	108	13	46	15	53	0.09	.....	0.09	0.0	1	23	6	2	nw.	J. W. Newton.
Pebble	Bannock	5,277	2	65.1	.....	95	27	30	5	58	0.47	.....	0.20	0.0	4	11	18	2	sw.	Mrs. Fannie Say.
Pierson	Custer	6,900	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	David P. Clarke.
Pine	Elmore	4,100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mrs. Jennie Potter.
Placerville	Boise	4,200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James McDevitt.
Pleasant Valley	Ada	3,000	3	74.2	.....	104	13	41	23	48	0.10	.....	0.08	0.0	3	27	3	1	nw.	C. E. Friedrich.
Pocatello	Bannock	4,483	11	73.5	+ 2.3	96	19	46	5	40	0.10	− 0.53	0.05	0.0	4	16	14	1	se.	U. S. Weather Bureau.
Pocatello Nursery	....do	5,396	3	66.4	.....	92	18†	31	23	50	0.28	.....	0.11	0.0	3	15	14	2	sw.	Mrs. Anna M. Wrensted.
Poplar	Bingham	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Stanley Bybee.
Porthill	Bonner	1,665	22	66.1	+ 0.1	94	16	43	2	44	0.32	− 0.75	0.21	0.0	2	29	0	2	sw.	H. A. French.
Powers Ranch	Boise	4,300	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mrs. Mary French.
Pyle Creek	....do	3,100	2	.....	.....	.....	.....	.....	.....	.....	0.28	.....	0.26	0.0	2	21	8	2	ne.	Walter L. Cole.
Rattlesnake Creek	Elmore	4,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Richard M. Green.
Richfield	Lincoln	.....	.....	73.6	.....	99	13†	40	5	48	0.10	.....	0.07	0.0	2	25	5	1	w.	C. H. Fitch.
Roseworth	Twin Falls	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.52	.....	0.21	0.0	6	7	21	3	nw.	D. B. Hartwell.
Ruby Creek	Boise	4,400	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	O. A. Hatter.
Rupert	Lincoln	4,204	4	72.7	.....	99	13	41	4†	53	0.46	.....	0.46	0.0	1	26	2	3	w.	Will Parry.
St. Maries	Kootenai	2,263	14	67.4	+ 1.6	98	16	40	27	50	0.17	− 0.06	0.17	0.0	1	24	5	2	w.	J. S. Turnbull.
Salmon	Lemhi	4,040	5	68.9	.....	100	13	40	6†	55	0.62	.....	0.35	0.0	3	25	5	1	sw.	E. K. Abbott.
Salmon River Dam	Twin Falls	.....	3	74.8	.....	99	13	43	5	42	0.60	.....	0.18	0.0	6	15	10	6	nw.	Arch M. Gilbert..
Sandpoint	Bonner	2,086	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. H. Edgertond.
Sheep Hill	Boise	5,000	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Clifford M. Garner.
Shoshone	Lincoln	3,968	3	72.3	.....	95	13	41	24	51	0.18	.....	0.11	0.0	2	20	11	0	w.	O. A. Truman.
Silver City	Owyhee	6,280	3	.....	.....	.....	.....	.....	.....	.....	0.71	.....	0.42	0.0	4	18	11	2	s.	A. D. Bradfield
Smith Prairie	Elmore	5,200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Wm. W. Newell.
Smith Ranger Station	Bonner	1,080	2	.....	.....	.....	.....	.....	.....	.....	0.62	.....	0.17	0.0	5	20	8	3	sw.	T. D. Crittenden.
Soldier Creek	Blaine	.....	.....	67.0	.....	92	17	36	23	45	0.22	.....	0.20	0.0	3	26	3	2	w.	J. E. Minear.
Springfield	Bingham	4,420	2	71.2	.....	100	13	38	5	53	0.30	.....	0.20	0.0	2	22	7	2	sw.	Mrs. W. A. Edwards.
Sugar	Fremont	.....	4	67.8	.....	93	18	38	23	52	0.29	.....	0.18	0.0	4	20	8	3	sw.	Arthur Cutting.
Sunnyside	Elmore	.....	2	76.5	.....	105	13	45	23	49	0.10	.....	0.10	0.0	1	.....	.....	.....	nw.	E. A. Wilmot.
Tripod Mountain	Boise	4,300	2	.....	.....	.....	.....	.....	.....	.....	T.	.....	T.	0.0	0	19	10	2	.....	Mrs. Verna Paddock.
Twin Falls	Twin Falls	3,825	6	73.4	.....	103	13	38	4	53	0.12	.....	0.10	0.0	2	10	20	1	w.	J. A. Waters.
Vernon	Fremont	.....	13	67.0	+ 2.6	93	13	31	23	51	0.04	− 0.59	0.04	0.0	1	17	13	1	sw.	A. M. Slatery.
Wallace	Shoshone	2,728	3	66.2	.....	99	16	40	27	49	0.27	.....	0.16	0.0	5	.....	.....	.....	w.	U. S. Weather Bureau.
Wendell	Lincoln	3,400	3	77.1	.....	105	13†	42	5	51	0.34	.....	0.15	0.0	4	24	6	1	w.	Chas. L. Dingler.
Washington.																				
Aberdeen	Chehalis	162	19	58.3	− 1.8	89	10	41	14†	32	0.29	− 0.62	0.26	0.0	2	0	30	1	w.	Carl S. Weatherwax.
Anacortes	Skagit	60	16	62.5	.....	86	10†	40	18†	45	0.00	− 0.59	0.00	0.0	0	26	4	1	.....	Douglas Allmond.
Baker	....do	200	4	63.8	.....	91	10†	42	5†	40	0.64	.....	0.36	0.0	2	19	6	6	.....	Robt. M. White.
Bellingham	Whatcom	60	15	61.9	+ 1.1	86	10	40	3	39	0.05	− 0.71	0.05	0.0	1	22	6	3	.....	Sanford B. Mayhew.
Blaine	....do	57	13	59.8	− 1.1	86	10	38	4	36	0.00	− 1.85	0.00	0.0	0	21	10	0	sw.	U. S. Weather Bureau.
Blalock Island	Benton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Blalock Island Garden Co.
Blewett	Chelan	2,200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John Beermeister.
Bremerton	Kitsap	30	.....	.....	.....	.....	.....	.....	.....	.....	T.	.....	T.	0.0	0	.....	.....	.....	.....	U. S. Navy Yard.
Brewster	Okanogan	1,620	.....	75.0	.....	100	20	52	23	39	0.13	.....	0.13	0.0	1	25	6	0	sw.	Mrs. H. F. Bertram.
Bumping Lake	Yakima	.....	.....	60.8	.....	93	11†	30	17†	51	0.05	.....	0.05	0.0	1	30	0	1	.....	U. S. Reclamation Service.
Cashmere	Chelan	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.00	.....	0.00	0.0	0	29	2	0	nw.	Valley Power Co.
Cedar River	King	535	3	.....	.....	.....	.....	.....	.....	.....	0.07	.....	0.07	0.0	1	19	2	10	.....	George Landsburg.
Centralia	Lewis	212	17	62.8	− 1.5	93	10†	40	4†	49	0.00	− 0.67	0.00	0.0	0	21	10	0	w.	I. S. Turner.
Cheney	Spokane	2,351	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Northern Pacific Ry.
Clealum	Kittitas	1,930	11	64.0	+ 0.2	97	19	34	27	59	0.00	− 0.35	0.00	0.0	0	30	1	0	sw.	J. A. Balmer.
Clearbrook	Whatcom	140	7	58.4	.....	93	10	33	4	51	0.02	.....	0.02	0.0	1	15	12	4	w.	Geo. Gibbs.
Clearwater	Jefferson	135	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Colfax	Whitman	2,300	21	66.6	+ 1.8	98	19	36	27	55	0.10	− 0.54	0.10	0.0	1	.....	.....	.....	.....	W. H. James.
Colville	Stevens	1,635	10	67.3	− 0.8	101	16	38	31	55	0.10	− 1.09	0.08	0.0	2	27	2	2	sw.	W. L. Sax.
Conconully	Okanogan	2,300	10	67.6	+ 1.1	93	12†	42	18	42	0.02	− 1.08	0.02	0.0	1	25	5	1	s.	Wm. Baines.
Cowiche	Yakima	.....	.....	72.6	.....	97	11†	50	1	40	0.00	.....	0.00	0.0	0	31	0	0	nw.	U. S. Reclamation Service.
Crescent	Lincoln	2,250	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Otto Wollweber.
Davenport	....do	2,450	1	68.2	.....	94	19	36	18	52	0.13	.....	0.06	0.0	3	30	1	0	sw.	W. H. Reed.
Dayton	Columbia	1,700	24	70.5	+ 1.0	94	11†	45	1	42	T.	− 0.61	T.	0.0	0	25	6	0	sw.	W. W. Hendron.
Detroit	Mason	30	2	63.8	.....	95	10	43	4	47	0.00	.....	0.00	0.0	0	22	8	1	s.	Walter O. Eckert.
Dixie	Walla Walla	5,000	1	.....	.....	.....	.....	.....	.....	.....	0.30	.....	0.23	0.0	3	21	6	4	sw.	T. Z. Andrews.
Duckabush	Jefferson	380	2	61.6	.....	93	11	40	4†	45	0.31	.....	0.31	0.0	1	16	11	4	n.	E. J. Finch.
East Sound	San Juan	500	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Benj. E. Harrison.
Ellensburg	Kittitas	1,571	22	68.6	+ 2.2	98	19	39	27	57	0.00	− 0.28	0.00	0.0	0	30	1	0	nw.	R. Lee Barnes.
Ephrata	Grant	1,265	7	75.5	.....	100[b]	12†	52[b]	23	28[b]	0.00	.....	0.00	0.0	0	27	4	0	.....	T. J. Cook.
Forks	Clallam	480	1	60.7	.....	98[b]	10	40[b]	2†	50[b]	0.38	.....	0.30	0.0	3	15[a]	13[a]	2[a]	sw.	E. A. Markham.
Fort Simcoe	Yakima	1,427	16	70.4	− 2.6	102	14	39	1	55	0.00	− 0.09	0.00	0.0	0	26	4	1	.....	Frank C. Hill.
Goat Lake	Snohomish	2,900	1	.....	.....	.....	.....	.....	.....	.....	0.74	.....	0.67	0.0	2	.....	.....	.....	.....	C. M. Mackintosh.
Gold Creek	Yakima	2,600	1	.....	.....	.....	.....	.....	.....	.....	0.00	.....	0.00	0.0	0	24	4	3	w.	John W. Anderson.
Gold Hill	....do	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Goldendale	Klickitat	1,600	4	69.7	.....	100	19	41	4	51	.....	.....	.....	0.0	.....	22	6	3	w.	Klickitat Co. Abstract Co.
Granite Falls	Snohomish	397	7	.....	.....	.....	.....	.....	.....	.....	1.06	.....	0.90	0.0	2	2[c]	5	6	nw.	C. H. Cleaver.
Guler	Klickitat	2,200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Frank Kuehnel.
Hatton	Adams	1,100	5	72.0	.....	103	11	39	1	55	0.07	.....	0.05	0.0	2	21	6	4	sw.	Dr. A. V. Marion.
Huntsville	Columbia	1,400	2	.....	.....	.....	.....	.....	.....	.....	0.02	.....	0.02	0.0	1	31	0	0	.....	Dr. B. Hill.
Irene Mountain	Okanogan	3,015	1	.....	.....	.....	.....	.....	.....	.....	0.23	.....	0.09	0.0	3	21	9	1	sw.	Mrs. Manda Shain.
Kachess Valley	Kittitas	3,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kennewick	Benton	367	15	75.0	− 2.6	103	11†	45	4	46	T.	− 0.13	T.	0.0	0	.....	.....	.....	.....	Mrs. L. W. Soth.
Kettle Falls	Stevens	1,265	1	70.6	.....	100	12†	43	5†	48	0.09	.....	0.05	0.0	2	27	4	0	.....	Harry H. Cole.
Kiona	Benton	430	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. F. S. Hedger.
Kosmos	Lewis	775	4	62.3	.....	97	10	36	27	49	0.11	.....	0.09	0.0	2	11	20	0	nw.	J. A. Ulsh.
La Center	Clarke	250	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Joseph Brothers.
La Crosse	Whitman	1,400	1	68.9	.....	100	21	36	27	56	0.28	.....	0.28	0.0	1	25	6	0	w.	M. E. Schreck.
Lake Clealum	Kittitas	2,171	1	.....	.....	.....	.....	.....	.....	.....	0.03	.....	0.03	0.0	1	19	8	4	nw.	U. S. Reclamation Service.
Lake Kachess	....do	2,235	2	63.0	.....	91	20	41	18	45	0.04	.....	0.04	0.0	1	29	1	1	s.	Do.
Lake Keechelus	....do	2,479	2	.....	.....	.....	.....	.....	.....	.....	0.20	.....	0.20	0.0	1	8	11	12	.....	Do.
Lakeside	Chelan	1,116	19	73.3	+ 0.4	99	11	47	19	47	0.09	− 0.25	0.09	0.0	1	23	7	1	w.	W. H. Van Meter.
Laurel	Klickitat	1,900	1	.....	.....	.....	.....	.....	.....	.....	0.00	.....	0.00	0.0	0	24	7	0	w.	Mrs. Minnie E. Strout.

TABLE 1.—*Climatological data for July, 1910. District No. 12*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Washington—Cont'd.																				
Laurier	Ferry			71.0	.....	102	12†	42	27	54	0.30	.....	0.14	0.0	3	13	10	8	sw.	Mrs. J. S. Myers.
Lester	King	1,614	6	61.8	.....	94	10	36	27	51	0.10	.....	0.10	0.0	1	27	2	2	w.	W. W. Clabaugh.
Lone Tree	Chehalis	14	1	58.1	.....	77	10	49	20	21	0.06	.....	0.04	0.0	2	7	19	5	nw.	U. S. A. Engineer Corps.
Longmires Springs	Pierce	2,800	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	U. S. Forest Service.
Lost Creek	Okanogan	3,125	1	.....	.....	.....	.....	.....	.....	.....	T.	.....	T.	0.0	0	28	3	0	sw.	P. H. Leese.
Lucerne	Chelan	1,100	3	65.6	.....	94[a]	18†	40[a]	1†	46[a]	0.00	.....	0.0	0.0	0	12[a]	16[a]	2[a]	nw.[a]	Mrs. Barbara Shearer.
Lyle	Klickitat	600	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Wm. Morginson.
McCumber's Ranch	Yakima	2,182	1	.....	.....	.....	.....	.....	.....	.....	0.00	.....	0.0	0.0	0	26	3	2	sw.	Mrs. Mary McCumber.
Merritt	Chelan	2,175	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. B. Smith.
Mottinger	Benton	307	10	77.0	+ 1.1	102	11†	52	1†	44	0.00	− 0.19	0.00	0.0	0	30	1	0	w.	G. H. Mottinger.
Mount Pleasant	Skamania	650	10	64.7	− 0.6	96[a]	10	41[a]	2	41[a]	0.00	− 1.14	0.00	0.0	0	28[a]	2[a]	0[a]	w.[a]	F. M. Grout.
Moxee	Yakima	1,000	18	73.2	+ 1.9	104[a]	11	44[a]	14†	58[a]	T.	− 0.26	T.	0.0	0	25	5	1	w.	Henry B. Scudder.
Newport	Stevens	2,400	.....	63.6	.....	95	16	35	18†	57	0.57	.....	0.16	0.0	4	25	6	0	sw.	Chas. M. Talmadge.
Nighthawk	Okanogan	3,050	.....	.....	.....	.....	.....	.....	.....	.....	0.01	.....	0.01	0.0	1	29	2	0	.....	Steve Nagy.
North Head	Pacific	211	8	55.2	− 2.5	67	10	46	20	11	0.13	− 0.41	0.07	0.0	3	5	16	10	nw.	U. S. Weather Bureau.
Northport	Stevens	1,350	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Forrest B. Phillips.
North Yakima	Yakima	1,070	1	74.4	.....	100	11	47	23	48	0.00	.....	0.00	0.0	0	28	2	1	nw.	U. S. Weather Bureau.
Nutland	Klickitat		1	76.1[b]	.....	101[b]	11	51[b]	1	41[b]	0.00	.....	0.00	0.0	0	.....	.....	.....	.....	J. R. Shepard.
Odessa	Lincoln	1,540	7	72.1	.....	100	20	40	18	54	T.	.....	T.	0.0	0	27	4	0	sw.	Wm. U. Neeley.
Olga	San Juan	50	20	58.2	− 1.2	77	10	44	3†	28	T.	− 0.73	T.	0.0	0	21	10	0	sw.	Cecil S. Willis.
Olympia	Thurston	200	32	62.2	− 0.8	91	10†	39	4†	49	0.00	− 0.09	0.00	0.0	0	25	1	5	nw.	M. O'Connor.
Omak	Okanogan	850	1	76.2	.....	105	20	47	3†	51	T.	.....	T.	0.0	0	.....	.....	.....	n.	Wm. G. Tait.
Oroville	....do	922	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. Dufield.
Peola	Garfield	5,000	1	.....	.....	.....	.....	.....	.....	.....	0.21	.....	0.07	0.0	5	25	6	0	nw.	Samuel Gruell, sr.
Pomeroy	....do	1,500	18	70.6	− 1.9	98	21	44	1†	47	0.25	− 0.18	0.25	0.0	1	22	8	1	w.	Peter McClung.
Port Crescent	Clallam	259	15	54.4	− 1.9	90	10	28	18	40	T.	− 0.61	T.	0.0	0	13	17	1	nw.	U. S. Weather Bureau.
Port Townsend	Jefferson	80	20	60.4	− 0.5	85	20	46	14	31	0.32	− 0.43	0.32	0.0	1	15[a]	13[a]	2[a]	nw.[a]	Frank Plummer.
Pullman	Whitman	2,550	18	68.2	+ 0.7	99	14	43	27	46	0.08	− 0.56	0.08	0.0	1	26	4	1	sw.	State Agricultural College.
Quinlault	Chehalis	300	3	62.0	.....	94	10	42	14†	44	0.30	.....	0.23	0.0	3	19	10	2	w.	A. V. Higley.
Republic	Ferry	2,628	10	64.7	+ 0.1	95	20	36	23	52	0.19	.....	0.14	0.0	2	28	2	1	nw.	Geo. B. Stocking.
Rex Creek	Chelan	1,135	3	67.0[f]	.....	88[f]	10†	48[f]	1	33	0.00	.....	0.00	0.0	0	8[c]	1[c]	7[c]	nw.	James W. Nicol.
Ritzville	Adams	1,825	11	.....	.....	.....	.....	.....	.....	.....	0.12	− 0.17	0.07	0.0	2	.....	.....	.....	.....	Northern Pacific Ry.
Rock Lake	Whitman	1,910	4	71.6	.....	101	11†	37	18	59	0.32	.....	0.32	0.0	1	23	5	3	w.	P. M. Ramsey.
Rosalia	....do	2,425	18	69.2	+ 4.2	93	16†	43	18	46	0.12	− 0.76	0.05	0.0	3	24	7	0	sw.	Hans Mumm.
Russells Ranch	Yakima	2,870	1	.....	.....	.....	.....	.....	.....	.....	0.09	.....	0.09	0.0	1	28	2	1	w.	Maggie M. Russell.
Scenic Hot Springs	King	2,021	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Seattle	....do	123	19	62.6	− 0.9	86	10	48	27	28	0.01	− 0.68	0.01	0.0	1	9	18	4	n.	U. S. Weather Bureau.
Sedro-Wooley	Skagit	38	13	62.4	.....	94	10	37	4	48	0.59	− 0.82	0.59	0.0	1	17	12	2	.....	Mrs. H. L. Devin.
Sixprong	Klickitat	1,240	3	75.6	.....	102	11	48	1†	44	0.00	.....	0.00	0.0	0	25	2	4	sw.	C. E. Comstock.
Skagit Power Dam	Whatcom	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Skagit Power Co.
Snohomish	Snohomish	100	16	61.4	− 1.3	94	11	38	7†	47	0.33	− 0.86	0.32	0.0	2	23	5	3	nw.	Warren Hodge.
Snoqualmie Falls	King	667	11	66.2	+ 0.9	96	10†	42	18	47	0.02	− 1.17	0.02	0.0	1	30	0	1	.....	O. N. Wiswell.
Snoqualmie Pass	Kittitas	3,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. E. Ingraham.
Snyders Ranch	Okanogan	2,200	1	.....	.....	.....	.....	.....	.....	.....	0.00	.....	0.00	0.0	0	28	3	0	w.	Geo. M. Snyder.
South Bend	Pacific	16	15	60.1	− 2.5	89	10	41	26†	40	0.06	− 0.96	0.05	0.0	2	13	11	7	w.	Miss Winifred Eichner.
Spokane	Spokane	1,943	29	71.6	+ 2.8	95	16	50	22	42	0.68	− 0.02	0.59	0.0	3	16	12	3	sw.	U. S. Weather Bureau.
State University	King	.....	1	62.0	.....	88	10†	46	14	32	0.11	.....	0.11	0.0	1	20	5	6	nw.	University of Washington.
Stokes Ranch	Okanogan	2,670	1	.....	.....	.....	.....	.....	.....	.....	0.65	.....	0.65	0.0	1	26	4	1	w.	Chas. W. Gunn.
Sullivan Lake	Stevens	2,700	.....	.....	.....	.....	.....	.....	.....	.....	0.34	.....	0.26	0.0	2	19	10	2	.....	U. S. Forest Service.
Sumner	Pierce	77	2	61.2	.....	88	10†	39	18†	45	T.	.....	T.	0.0	0	20	6	5	nw.	H. E. Thompson.
Sunnyside	Yakima	740	15	71.0	− 0.7	101	11	42	1	53	0.00	− 0.23	0.00	0.0	0	27	2	2	nw.	U. S. Reclamation Service.
Tacoma	Pierce	213	24	62.6	− 0.8	91	11	45	27	32	0.01	− 0.65	0.01	0.0	1	15	11	5	n.	U. S. Weather Bureau.
Tatoosh Island	Clallam	86	25	54.0	− 1.1	72	10	48	27	19	0.13	− 1.65	0.07	0.0	6	7	10	14	sw.	Do.
Tieton	Yakima	2,000	1	66.8	.....	96	19	42	18	48	0.03	.....	0.03	0.0	1	31	0	0	w.	U. S. Reclamation Service.
Touchet	Walla Walla	556	3	72.0	.....	101	11	42	27	52	T.	.....	T.	0.0	0	23	5	3	sw.	D. W. Dorrance.
Touchet Ridge	Columbia	2,500	1	.....	.....	.....	.....	.....	.....	.....	0.51	.....	0.43	0.0	2	27	4	0	sw.	R. H. King.
Trinidad	Grant	900	6	77.2	.....	102	11	55	1†	38	0.03	.....	0.03	0.0	1	28	3	0	nw.	J. C. Wheeler.
Twin Sister Lakes	Yakima	4,500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Twisp	Okanogan	1,350	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tyee	Chelan	2,000	1	.....	.....	.....	.....	.....	.....	.....	0.00	.....	0.00	0.0	0	24	6	1	w.	Elias McCrea.
Upper Clealum Valley	Kittitas	5,300	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vancouver	Clarke	100	35	67.6	+ 0.6	101	10	45	18	41	0.02	− 0.90	0.02	0.0	1	19	11	1	nw.	A. A. Quarnberg.
Vashon Island	King	40	21	60.6	− 2.4	84	10†	43	1	33	0.00	− 0.54	0.00	0.0	0	26	3	2	n.	Miss Gertrude McClintock.
Wahluke	Grant	410	6	77.3	.....	107[a]	16	51[a]	1	48[a]	0.04	.....	0.04	0.0	1	26	4	1	.....	F. C. Koppen.
Wallace	Okanagon	4,000	1	.....	.....	.....	.....	.....	.....	.....	0.05	.....	0.05	0.0	1	21	10	0	s.	G. A. Wallace.
Walla Walla	Walla Walla	1,000	26	76.2	+ 2.1	100	19	54	1	37	T.	− 0.39	T.	0.0	0	24	6	1	s.	U. S. Weather Bureau.
Waterville	Douglas	2,624	20	67.8	+ 1.1	97	20	37	18	51	0.07	− 0.38	0.07	0.0	1	28[a]	2[a]	0[a]	w.	O. R. Hopewell.
Wenatchee (near)	Chelan	1,169	11	71.4	+ 1.9	95	20	49	23	35	0.11	− 0.32	0.11	0.0	1	28	3	0	w.	Geo. A. Pitcher.
West Branch	Stevens	2,600	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	U. S. Forest Service.
Wilbur	Lincoln	2,203	11	66.0	+ 1.5	94	11†	36	1†	52	0.36	− 0.22	0.20	0.0	2	28	2	1	sw.	Rollin J. Reeves.
Yale	Cowlitz	375	3	63.8	.....	96	10	40	18	46	0.00	.....	0.00	0.0	0	19	9	3	sw.	L. F. Williams.
Zindel	Asotin	715	8	74.9	.....	106	15	51	9	45	T.	.....	T.	0.0	0	20	8	3	s.	M. W. Zindel.
Oregon.																				
Albany	Linn	214	28	66.2	− 0.1	99	10	44	30†	46	0.00	− 0.49	0.00	0.0	0	21	7	3	n.	F. M. French.
Ashland	Jackson	1,963	22	72.8	+ 3.0	99	9†	49	1†	43	0.05	− 0.41	0.05	0.0	1	10	18	3	w.	G. G. Eubanks.
Astoria	Clatsop	78	48	60.2	− 1.3	82	10	46	27	28	0.04	− 0.98	0.04	0.0	1	23	5	3	nw.	Irving Club.
Baker City	Baker	3,466	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	U. S. Weather Bureau.
Bay City	Tillamook	14	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. O. Bozarth.
Bend	Crook	3,629	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. O. Minor.
Birch Creek	Wheeler	2,900	1	.....	.....	.....	.....	.....	.....	.....	0.02	.....	0.02	0.0	1	.....	.....	.....	.....	F. S. Matteson.
Black Butte	Lane	1,200	9	60.4	.....	96	10	41	2†	44	0.25	.....	0.15	0.0	2	28	1	2	ne.	William Harris.
Blalock	Gilliam	237	11	78.7	+ 0.7	108	11	53	1	42	T.	− 0.13	T.	0.0	0	24	5	2	w.	Geo. W. Long.
Burns	Harney	4,157	20	68.9	+ 3.1	100	14	37	1	56	0.03	− 0.18	0.03	0.0	1	21	10	0	w.	J. C. Welcome, jr.
Cascade Locks	Hood River	100	19	67.3	− 0.6	98	10	46	18	44	0.00	− 0.79	0.00	0.0	0	29	2	0	w.	Val. W. Tompkins.
Cazadero[a]	Clackamas	503	1	66.2	.....	98	10	41	18	46	T.	.....	T.	0.0	0	26	1	3	nw.	Alf Drill.
Christmas Lake	Lake	4,320	2	63.8	.....	97	13	30	5	55	0.66	.....	0.37	0.0	3	16	10	5	n.	John C. Meen.
Condon	Gilliam	2,888	2	66.9	.....	92	11†	41	1†	44	0.04	.....	0.03	0.0	2	25	6	0	nw.	C. H. Williams.
Corvallis	Benton	266	21	65.7	+ 0.4	96	10	42	3	44	T.	− 0.28	0.00	0.0	0	22	7	2	w.	Oregon Agricultural Coll.
Dayville	Grant	1,500	15	70.2	+ 1.4	98	11†	39	27	54	0.12	− 0.28	0.07	0.0	2	27	3	1	nw.	Dr. J. Campbell-Martin.
Deadwood	Lane	350	.....	63.9	.....	93	10†	40	3	45	0.13	.....	0.13	0.0	1	23	6	2	nw.	Jos. Slemmons.
Doraville	Columbia	600	8	61.5	.....	92	10	43	2	37	T.	.....	T.	0.0	0	23	7	1	nw.	Jos. Hackenberg.
Drain	Douglas	300	7	66.0	.....	98	10	40	5†	51	0.00	.....	0.00	0.0	0	23	6	2	nw.	Ira Wimberly.
Echo	Umatilla	625	5	75.0	.....	103	11	45	27	50	T.	.....	T.	0.0	0	25	4	2	w.	R. B. Stanfield.
Ella	Morrow	830	5	75.0	.....	102	11	42	1	47	0.03	− 0.10	0.03	0.0	1	26	5	0	sw.	C. F. Troedson.
Eugene	Lane	453	20	66.4	+ 0.8	95	10	44	18	40	0.00	− 0.54	0.00	0.0	0	25	6	0	n.	F. L. Barker.
Fairview	Coos	142	12	55.9	− 5.5	82	10	38	11	42	0.12	− 0.40	0.12	0.0	1	26	0	5	nw.	William Bettys.
Falls City	Polk	355	12	63.2	.....	98	10	38	3†	55	0.09	− 0.38	0.09	0.0	1	26	5	0	se.	Chas. F. Vick.

TABLE 1.—*Climatological data for July, 1910. District No. 12*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Oregon—Cont'd.																				
Forest Grove	Washington	220	20																	Pacific University.
Gardiner	Douglas	72	20	60.7	+ 0.4	78	10	46	18†	27	0.00	− 0.90	0.00	0.0	0	19	10	2	.....	Hon. J. S. Gray.
Glendale	do	1,441	5	71.6	.....	101	19	37	4	53	0.00	.....	0.00	0.0	0	27	4	0	nw.	B. J. Simpson.
Glenora	Tillamook	575	18	62.4	− 0.3	98	19	37	26	57	0.01	− 1.22	0.01	0.0	1	24	3	4	nw.	Mrs. Jennie Reeher.
Gold Beach	Curry	40	8	56.0	.....	77	7	39	31	32	0.00	.....	0.00	0.0	0	30	0	1	nw.	C. Dewey.
Granite	Grant	4,680	4	59.6	.....	96	13	28	27	56	0.56	.....	0.34	0.0	3	14	12	5	nw.	L. M. Ford.
Grants Pass	Josephine	956	21	71.2	+ 1.6	105	19†	42	22	55	0.00	− 0.11	0.00	0.0	0	26	5	0	sw.	John B. Paddock.
Grass Valley	Sherman	2,381	8	65.0	.....	95	11†	37	1	42	0.00	.....	0.00	0.0	0	23	6	2	sw.	Oreg. Ry. & Navigation Co.
Grindstone	Crook	5,000	...	64.0	.....	93	13	30	2	47	1.20	.....	1.20	0.0	1	15	3	13	sw.	Orrin C. Mills.
Headworks	Clackamas	719	4	65.4	.....	100	10	41	27	48	0.00	− 1.58	0.00	0.0	0	26	5	0	sw.	Portland Water Works.
Heppner	Morrow	1,950	21	69.0	+ 0.2	97	11	44	1	42	0.02	− 0.55	0.01	0.0	2	26	4	1	nw.	Ralph Kenton.
Hermiston	Umatilla	450	3	75.2	.....	103	11	48	18	49	0.01	.....	0.01	0.0	1	29	1	1	.....	C. W. Kellogg.
Hood River	Hood River	300	19	68.6	+ 1.3	101	10†	40	17†	44	0.00	− 0.19	0.00	0.0	0	28	0	3	w.	H. L. Hasbrouck.
Huntington	Baker	2,165	9																	J. M. Day.
Jacksonville	Jackson	1,640	21	73.8	+ 3.9	102	19	46	22	48	0.22	+ 0.03	0.22	0.0	1	27	2	2	w.	E. Britt.
Joseph	Wallowa	4,400	21	64.0	+ 1.7	88	15	37	22	48	0.72	− 0.20	0.49	0.0	3	28	2	1	s.	F. F. McCully.
Klamath Agency	Klamath	4,169	2	59.8	.....	90	12†	24	4	58	0.01	.....	0.01	0.0	1	21	3	7	s.	Edson C. Watson.
Klamath Falls	do	4,250	15	68.6	+ 0.9	94	13	37	4	37	0.26	+ 0.14	0.26	0.0	1	24	3	4	nw.	W. H. Heileman.
La Grande	Union	2,784	24	70.2	+ 1.5	99	16	41	23	49	1.16	+ 0.52	1.07	0.0	3	26	3	2	nw.	W. A. Worstell.
Lakeview	Lake	4,800	7	63.2	− 3.3	101	30	20	4	70	0.00	− 0.28	0.00	0.0	0	27	2	2	s.	Geo. L. Horton, jr.
Madras	Crook	2,150	1					34	24†		0.05	.....	0.05	0.0	1	28	3	0	n.	Howard W. Turner.
Marshfield	Coos	12	6	57.8	.....	73	10	43	3	21				0.0	...	10	15	6	nw.	U. S. Weather Bureau.
McKenzie Bridge	Lane	1,400	7	64.6	.....	98	8†	36	20	59	0.00	.....	0.00	0.0	0	27	0	4	w.	Geo. Frissell.
Merrill	Klamath	4,070	4	67.4	.....	95	13	37	5	45	0.81	.....	0.00	0.0	2	25	6	0	.....	Mrs. Agnus Ritchson.
McMinnville	Yamhill	180	22	65.8	+ 1.1	100	10	41	18	51	T.	− 0.38	T.	0.0	0	22	6	3	sw.	J. H. Pruett.
Mikkalo	Gilliam	1,600	4	70.8	.....	99	11†	43	17	44	0.02	.....	0.02	0.0	1	28	1	2	w.	Frank Little.
Miramonte Farm	Clackamas	195	21	66.3	+ 1.1	100	10	43	18	46	0.02	− 0.52	0.02	0.0	1	26	5	0	n.	G. M. Muecke.
Monroe	Benton	350	13	65.8[b]	+ 0.5	97[b]	10	41[b]	26	41[b]	0.00	− 0.32	0.00	0.0	0	28	1	2	nw.	L. A. Peek.
Mount Angel	Marion	485	24	67.2	.....	96	11	48	4†	37	0.00	− 0.62	0.00	0.0	0	28	1	2	e.	Dr. U. F. Fisher.
Mountain Park	do	1,440	4	66.7	.....	93	19	40	18†	43	0.00	.....	0.00	0.0	0	27	1	3	w.	M. Markley.
Musick	Douglas	5,000	...	61.6	.....	86	19†	35	1†	38	0.00	.....	0.00	0.0	0	27	3	1	sw.	Alex. Lundburg.
Newport	Linton	69	22	56.2	− 1.5	69	6	42	27	22	0.00	− 0.86	0.00	0.0	0	27	1	3	nw.	William Matthews.
Paisley	Lake	4,500	6	69.6	.....	95	13	42	4	41	0.30	.....	0.20	0.0	2	25	3	3	sw.	E. C. Woodward.
Pendleton	Umatilla	1,070	20	70.8	− 0.8	104	11	42	30	56	0.01	− 0.43	0.01	0.0	1	22	8	1	sw.	E. F. Averill.
Pilot Rock	do	1,817	1	73.7	.....	103	12	46	1	46	0.00	.....	0.00	0.0	0	23	7	1	nw.	John P. McManus.
Pompeii	Clackamas	3,879	15	57.4	+ 1.6	86	10†	37	18	45	0.00	− 1.86	0.00	0.0	0	25	5	1	sw.	O. C. Yocum.
Portland	Multnomah	57	38	67.1	+ 0.3	97	10	51	4	31	T.	− 0.59	T.	0.0	0	18	12	1	nw.	U. S. Weather Bureau.
"P" Ranch	Harney	4,300	...	67.4	.....	95	12	38	23	52	0.12	.....	0.12	0.0	1	20	11	0	.....	J. P. Jefferson.
Prineville	Crook	2,864	13	66.7	+ 1.9	98	19	36	4†	58	0.14	− 0.21	0.09	0.0	2	28	1	2	.....	Geo. Whiteis.
Prospect	Jackson	2,750	4	67.3	.....	99	19	36	22	54	0.11	.....	0.11	0.0	1	23	7	1	w.	E. F. Graham.
Ramsey	Wasco	1,350	...	64.6	.....	93	11	37	27	46	0.06	.....	0.06	0.0	1	28	1	2	e.	Mrs. Iva B. Collins.
Range	Grant	3,500	1	60.0	.....	96	20	22	4	62	T.	.....	T.	0.0	0	29	2	0	.....	Craig Thom.
Richland	Baker	2,350	8	72.1	.....	100	13	43	23	47	T.	.....	T.	0.0	0	24	6	1	w.	C. G. Morgan.
Riverside	Malheur	3,000	11	76.2	+ 6.7	105	13	44	2†	51	0.31	+ 0.02	0.18	0.0	3	17	14	0	w.	Mrs. Leah Fairman.
Roseburg	Douglas	523	33	68.5	+ 1.9	98	10	45	5	43	0.03	− 0.30	0.03	0.0	1	26	4	1	nw.	U. S. Weather Bureau.
Salem	Marion	120	20	67.2	+ 0.8	95	10	50	3†	33	0.00	− 0.48	0.00	0.0	0	27	0	4	nw.	M. P. Baldwin.
Siskiyou	Jackson	4,115	1	66.5	.....	94	19	40	1†	41	0.00	.....	0.00	0.0	0	21	8	2	n.	U. S Weather Bureau.
Sparta	Baker	4,150	17																	Hon. J. A. Wright.
Stafford	Clackamas	400	13	66.5	+ 0.2	101	10	44	14†	44	T.	− 0.85	T.	0.0	0	.....	.....	.....	ne.	John P. Gage.
The Dalles	Wasco	112	35	72.6	0.0	99	10†	49	27	44	T.	− 0.16	T.	0.0	0	28	1	2	w.	S. L. Brooks.
Toledo	Linton	75	20	63.4	+ 2.3	80	10†	45	2	34	0.00	− 0.50	0.00	0.0	0	31	0	0	nw.	C. B. Crosno.
Umatilla	Umatilla	340	14	77.4	+ 2.0	103	11	54	1†	45	0.06	− 0.12	0.05	0.0	2	27	2	2	w.	Mrs. Helen T. Duncan.
Vale	Malheur	2,242	18	73.1	+ 2.7	109	20	33	23	66	T.	− 0.28	T.	0.0	0	25	2	4	ne.	H. P. Osborn.
Van	Harney	3,506	4	67.6[d]	.....	103[d]	13	36[d]	5	56[d]	0.60	.....	0.60	0.0	1	19[d]	8[d]	0[d]	nw.	Geo. Howe.
Wallace Orchard	Polk	170	1	69.2	.....	98	10	42	3	43	T.	.....	T.	0.0	0	19	12	0	.....	Chas. A. Parks.
Wallowa	Wallowa	2,935	7	65.6	.....	96	16	34	23†	55	0.24	.....	0.11	0.0	4	16	10	5	nw.	L. J. Coverstone.
Wasco	Wasco	1,263	2	72.6	.....	99	11	50	29	37	T.	.....	T.	0.0	0	29	1	1	w.	A. J. Swift
Warmspring	Crook	1,200	8	70.4	.....	100	11	40	3†	50	0.00	.....	0.00	0.0	0	30	0	1	nw.	C. C. Covey.
Weston	Umatilla	1,800	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. A. Baker.
Williams	Josephine	1,368	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. M. John.
Yonna	Klamath	.....	3	65.5	.....	95	10†	32	4†	54	0.30	.....	0.22	0.0	3	24	7	0	s.	Jacob Rueck.

* Precipitation included in that of the next measurement.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
‡ Separate dates of falls not recorded.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
‖ Estimated by observer.
‖‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.
[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

TABLE 2.—*Daily precipitation for July, 1910. District No. 12, Columbia Valley.*

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Montana.																																	
Anaconda	Missoula	.08	T.	T.	.42				.03				.05		T.	.03	T.	T.	T.		T.	T.	.03							.20		T.	0.84
Bison Mountain	do	.02	.03		.23				.09						.08				.01		.03		.01							.08			0.56
Butte	do				.35														T.			.10								.05		T.	0.50
Columbia Falls	Flathead																																
Como	Bitter Root	.03	.03	.40	.63											.03						.01											1.13
Dayton	Flathead									.30				T.	T.																		0.30
East Anaconda‖	Missoula	.02	T.		.35				.03				.14		T.		T.	T.	T.		.03	T.	.01							.26		T.	0.84
Fortine	Flathead			T.	T.					T.						.18	T.						.14	.04									0.36
Hamilton	Bitter Root	.19	.05		.67																									.13			1.05
Hat Creek	Missoula	.44	.05		.24				*	.07											.03	.06								.19			1.08
Kalispell	Flathead			.10					.08							.04	T.	T.					.21							T.			0.43
Lost Creek	Missoula				.35				.15				T.					T.												T.			0.50
McGinnis Meadows	Kootenai								T.							.08							.16									0.24
Missoula	Missoula		.01	.01	.02				T.	T.						T.					T.	T.	.09						T.	T.		0.13
Ophir	do	.37	.03		.61				.11							T.					T.		.03							.02		1.17
Ovando	do	T.	.40	T.	.37				T.							.15								.08					.16			1.16
Philipsburg	do	.41	.04		.09					T.									T.		.02								.06			0.62
Plains	Columbia			.30	.05				T.														T.									0.35
Pleasant Valley	Kootenai												T.			.04							.20									0.24
Polson	Flathead			.12					.04																								0.16
St. Ignatius	do		.05	.08	.05				.03							.01						T.	.07										0.29
St. Regis	Missoula				.23				.13								T.																0.36
Saltese	do																						.25										0.25
Snowshoe	Kootenai		T.	T.	T.				T.							.08							.65										0.73
Troy	do																						.45										0.45
Upper Lake McDonald	Flathead				.11								T.										.43	T.									0.54
Willow Glen Stock F'm	Missoula		T.		.40				.05				.05				T.		.35		.10	.01								.13	T.		1.09
Wyoming.																																	
Afton	Snake		.02															.05	.09	.35	.21		.22									.12	1.06
Alta	do			.01	.11											.05			.38		.04	.10							.02		T.	0.71
Bedford	do			T.									.06			.40		.21	.04	.10		T.							T.	.02	.09	0.92
Snake River	do				.20									T.		.20		T.	.30		.70	T.	T.				T.			T.	T.	T.	1.40
Nevada.																																	
San Jacinto	Snake												T.	.41		.17	T.	T.	T.	T.							.04	T.	T.	T.		T.	0.62
Utah.																																	
Standrod	Raft														.01			.44		.39	.80	.03						T.	.08				1.75
Idaho.																																	
Albion	Upper Snake				.20														T.		.14	.15										.07	0.56
Almo	do														.10			.10															0.20
American Falls	do																																
Blackfoot‖	do			T.											.21			T.			T.						T.		T.	T.		T.	0.21
Blackfoot Dam	do			T.									T.			.05		.39	T.	T.							T.		T.	T.		.58	1.02
Bock's Ranch	Boise																																
Bogus Creek	Payette																																
Boise	Boise			T.	T.										T.	T.			T.	T.	T.									T.		T.	
Bonners Ferry	Upper Columbia	.10	.05													.03						T.		.28									0.46
Boulder Mine	Boise				.19								.09		T.						.05	.01											0.34
Buhl	Upper Snake			.08												.20																	0.28
Burke	Upper Columbia				T.	.05							T.			T.							T.	.20									0.25
Caldwell	Boise				T.										T.				T.		T.												T.
Camas	Lost River Region															.03				.70		.08	.12									T.	0.93
Cambridge	Middle Snake				T.																.08	.07											0.15
Cedar Creek Dam	Upper Snake				.02										.02																		0.04
Chesterfield	do												.17			.06		T.									.01			T.	.20		0.44
Cœur d'Alene	Upper Columbia																					.06	.05										0.11
Cottonwood Creek	Boise				1.00										T.						.20						T.						1.20
Crawford	Payette																																
Culdesac	Clearwater																																0.00
Deary	do																																
Dent	do														T.							.01	.01										0.02
Driggs	Upper Snake				.30										T.					.50											T.		0.80
Edie	Lost River Region															T.				.78	.19	.60									.20		1.77
Edwardsburg	Salmon																																
Emmett	Payette																				T.	.12											0.12
Flowers	Wood-Mallad																																
Forney	Salmon				.55																	.15											0.70
Garden Valley	Payette				.20										T.							.07											0.27
Garnet	Middle Snake																																0.00
Glenns Ferry	do				.02																	.16											0.18
Gooding	Wood-Malad				.10										.03	.04					.07													0.24
Grand Forks	Upper Columbia																																
Grandview	Middle Snake				T.															.10		.08											0.18
Grimes Pass	Boise				.51														T.			.03											0.54
Guffey	Middle Snake			T.	.47										T.	T.				T.	.06	.04	T.										0.57
Hailey	Wood-Malad				.05										.06			.01			.05	.10											0.27
Hotspring	Middle Snake				T.										T.			T.															T.
Idaho City	Boise																																
Idaho Falls	Upper Snake												T.		.05	.02						.04											0.11
Indian Valley‖	Middle Snake																																
Irwin	Upper Snake												T.			.20		.65		.05									.06			.15	1.11
Kellog‖	Upper Columbia				.04											.02																	0.06
Kirkham	Payette				.25																												0.25
Kooskia	Clearwater																					.04											0.04
Lakeview	Upper Columbia																					.40											0.40
Landore	Middle Snake												T.			T.			T.		T.	.21											0.21
Lewiston	Clearwater			T.	T.										T.						T.	.10											0.10
Little Camas	Boise				T.													T.	.04	.18												T.	0.22
Long Gulch	do				.20																												0.20
Loon Creek	Salmon																																
Lost River	Lost River Region																																
Lowry	Owyhee				.50										.02				T.	.05	.55												1.12
McCall	Payette														T.						.10												0.10
Mackay‖	Lost River Region															.11						.15	.09										0.35
Meadows	Salmon				.34													T.		.01	.04	T.											0.39
Mesa	Middle Snake				.16											T.					.28	T.											0.44
Middle Fork	Clearwater																																
Milner	Upper Snake				.06										.02	.08		T.	.02	.01	.41							T.				T.	0.60
Moscow	Upper Columbia																				T.	T.	T.										T.
Mountainhome	Middle Snake				T.		T.																										T.
Murtaugh‖	Upper Snake					T.										.13			.35	T.	T.	.23											0.71
Nez Perce	Clearwater																					.08											0.08
Oakley	Upper Snake				T.										.20						.05		.10										0.35
O'Hara Bar	Clearwater																																
Orofino	do																				.05												0.05

TABLE 2.—*Daily precipitation for July, 1910. District No. 12*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Idaho—Cont'd.																																	
Payette	Payette	T.													T.	T.					.02	T.							T.			0.02
Peaceful Valley	Middle Snake																			T.	.09	T.										0.09
Pebble	Upper Snake			T.									T.	T.	.06			.18		.03		T.							T.		.20	0.47
Pierson	Salmon																															
Pine	Boise																															
Placerville	do				.01	.01														T.	.08											0.10
Pleasant Valley	do																															
Pocatello	Upper Snake	T.		T.	T.								.01		.05			T.			.02						T.		T.		.02	0.10
Pocatello Nursery	do														.07			.11			.10											0.28
Poplar	do																															
Porthill	Upper Columbia		.21																			.11										0.32
Powers Ranch	Boise																															
Pyle Creek	Payette				.28																		.02									0.28
Rattlesnake Creek	Boise																															
Richfield	Wood-Malad														T.	.07		T.	.03		T.							T.			T.	0.10
Roseworth	Upper Snake				.21									T.	.09	.09			.02	.02	.10										T.	0.53
Ruby Creek	Boise																															
Rupert	Upper Snake															.46					T.								T.	T.	T.	0.46
St. Maries	Upper Columbia			.17																	T.	T.										0.17
Salmon	Salmon	T.			.35	T.							T.			.05			T.		.22	T.							T.			0.62
Salmon River Dam	Upper Snake	T.			.13										.08	.18		.04	T.	.02	.15										T.	0.60
Sandpoint	Upper Columbia																															
Sheep Hill	Boise																															
Shoshone	Wood-Malad				.11										T.	T.		T.	.07		T.							T.				0.18
Silver City	Owyhee				.18	.02										T.				T.	.42	.09										0.71
Smith Prairie	Boise																															
Smith Ranger Station	Upper Columbia		.10													.09		.10				.16	.17									0.62
Soldier Creek	Wood-Malad				.20										.01							.01										0.22
Springfield	Upper Snake														.10														.20		T.	0.30
Sugar	do														.18							.03	.03						.05			0.29
Sunnyside	Middle Snake																			T.		.10										0.10
Tripod Mountain	Payette																					T.										T.
Twin Falls	Upper Snake				.02										.10																	0.12
Vernon	do														T.							T.							T.		.04	0.04
Wallace	Upper Columbia				.01								.02			.05					T.	.03	.16									0.27
Wendell	Wood-Malad				.05										.05	.15			T.		.09							T.				0.34
Washington.																																
Aberdeen	Coast													.03									.26									0.29
Anacortes	Puget Sound																															0.00
Baker	do													.36									.28									0.64
Bellingham	do																						.05									0.05
Blaine	do																															0.00
Blalock	Columbia																															
Blewett	Wenatchee																															
Bremerton	Puget Sound																						T.									T.
Brewster	Columbia																					.13										0.13
Bumping Lake	Yakima	.05																					T.									0.05
Cashmere	Wenatchee																															0.00
Cedar River	Puget Sound																						.07									0.07
Centralia	Coast																															0.00
Cheney	Spokane																															
Clealum	Yakima																															0.00
Clearbrook	Puget Sound																					.02										0.02
Clearwater	Coast																															
Colfax	Palouse															.10																0.10
Colville	Columbia																					.02	.08									0.10
Conconully	Okanogan																					.02										0.02
Cowiche	Yakima																															0.00
Crescent	Spokane																															
Davenport	Columbia		.04													.03					.06											0.13
Dayton	do		T.																	T.	T.											T.
Detroit	Puget Sound																															0.00
Dixie	Columbia															.05				.02	.23											0.30
Duckabush	Puget Sound	.31																														0.31
East Sound	do																															
Ellensburg	Yakima																															0.00
Ephrata	Columbia																															0.00
Forks	Coast																						.30	.03							.05	0.38
Fort Simcoe	Yakima																															0.00
Goat Lake	Puget Sound																							.67	.07							0.74
Gold Creek	Yakima																															0.00
Gold Hill	do																															
Goldendale	Columbia																															
Granite Falls	Puget Sound	.16																					.90									1.06
Guler	Columbia																															
Hatton	do	T.	.05												.02							T.										0.07
Huntsville	do														.02																	0.02
Irene Mountain	do	.08														.09						T.	.06									0.23
Kachess Valley	Yakima																															
Kennewick	Columbia													T.	T.					T.												T.
Kettle Falls	do																					.05	.04									0.09
Kiona	Yakima																															
Kosmos	Columbia	.09																					.02									0.11
La Center	do																															
La Crosse	Palouse		T.	T.											T.	T.						.28	T.									0.28
Lake Clealum	Yakima																						.03									0.03
Lake Kachess	do																						.04									0.04
Lake Keechelus	do																					.20										0.20
Lakeside	Columbia																					.09										0.09
Laurel	do																															0.00
Laurier	Kettle															T.		.10				.06	.14									0.20
Lester	Puget Sound																						.10									0.10
Lone Tree	Coast											T.	T.									.04	.02									0.06
Longmire Springs	Puget Sound																															
Lost Creek	Columbia														T.								T.									T.
Lucerne	do																															0.00
Lyle	do																															
McCumbers Ranch	do																															0.00
Merritt	Menatchie																															
Mottinger	Columbia																															0.00
Mount Pleasant	do																															0.00
Moxee	Yakima														T.							T.										T.
Newport	Pend d'Oreille		.15													.12						.16	.14									0.57
Nighthawk	Okanogan																															

TABLE 2.—*Daily precipitation for July, 1910. District No. 12*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Washington—Cont'd.																																	
North Head	Coast													.06								.01	.06										0.13
Northport	Columbia																					T.	.01										0.01
North Yakima	Yakima																																0.00
Nutland	Columbia																					T.											0.00
Odessa	...do																						T.										T.
Olga	Puget Sound																																T.
Olympia	...do														T.							T.	T.										0.00
Omak	Okanogan																																T.
Oroville	...do				.02										.03	.07					.04	.05											0.21
Peola	Snake																				T.	.25											0.25
Pomeroy	...do																							T.									T.
Port Crescent	Coast																					T.	.32										0.32
Port Townsend	Puget Sound																					.08											0.08
Pullman	Palouse																					.05	.23	.02									0.30
Quinault	Coast															T.						.14	.05										0.19
Republic	Kettle																																0.00
Rex Creek	Columbia														.05																		0.12
Ritzville	...do		.07													T.						.32											0.32
Rock Lake	Palouse		T.													.05						.05											0.12
Rosalia	...do		.02													T.																	0.09
Russells Ranch	Yakima	.09																															
Scenic Hot Springs	Puget Sound																					T.	.01										0.01
Seattle	...do																						.59										0.59
Sedro-Woolley	...do																																0.00
Sixprong	Columbia																																
Skagit Power Dam	Puget Sound																					T.	.32										0.33
Snohomish	...do	.01																					.02										0.02
Snoqualmie	...do	T.																															
Snoqualmie Pass	Yakima																																0.00
Snyders Ranch	Columbia																					.01	.05										0.06
South Bend	Coast							T.								.02						.59	T.										0.68
Spokane	Spokane		.07																														0.11
State University	Puget Sound	.11																				.65											0.65
Stokes Ranch	Columbia		T.																			.08	.26										0.34
Sullivan Lake	Pend d'Oreille		T.																				T.										T.
Sumner	Puget Sound																																0.00
Sunnyside	Yakima																					T.	.01										0.01
Tacoma	Puget Sound											T.	T.	.01								.05	.02	.02					T.	.02	.01	T.	0.13
Tatoosh Island	Coast			T.			T.														.03												0.03
Tieton	Yakima														T.						T.	T.											T.
Touchet	Columbia	T.	T.	T.											.08							.43											0.51
Touchet Ridge	...do															T.						.03											0.03
Trinidad	...do																																
Twin Sister Lakes	Yakima																																0.00
Twisp	Columbia																																
Tyee	...do																				.02												0.02
Upper Clealum Valley	Yakima																																0.00
Vancouver	Columbia														T.	.04																	0.04
Vashon Island	Puget Sound																					.05											0.05
Wahluke	Columbia																																T.
Wallace	Okanogan														T.						T.												0.07
Walla Walla	Columbia		T.																			.07											0.11
Waterville	...do																					.11											
Wenatchee (near)	...do																																0.36
West Branch	Spokane							T.									.16					.20											0.00
Wilbur	Columbia																						T.										T.
Yale	...do																																
Zindel	Snake																																0.00
Oregon.																																	
Albany	Willamette														.03						T.	.09											0.12
Ana River	Southeast Drainage																					.05											0.05
Ashland	Rogue																						T.	.04									0.04
Astoria	Columbia														T.							.25	.10										0.35
Bagleys Ranch	Snake																																
Baker City	...do																																
Bay City	Coast										.03																						0.03
Bear Creek	Deschutes																		T.	.12													0.12
Bear Valley	John Day																					.11											0.11
Beach Creek	...do																																T.
Bellfountain	Willamette		T.																														
Bend	Deschutes																					T.	T.										T.
Big Basin	John Day			T.																		.02											0.02
Birch Creek	...do	T.		T.																													0.25
Black Butte	Willamette	.10	.15																			T.											T.
Blalock	Columbia															T.						T.	.80										0.80
Blue M't'n Sawmill	Umatilla															T.	.01	T.															0.01
Buena Vista	Snake																					.03											0.03
Burns	Southeast Drainage																				.10	T.											0.10
Burns Mills	...do																					.02											0.02
Butte Falls	Rogue																																0.00
California Gulch	Umatilla																																
Canyon City	John Day																																0.00
Cascade Locks	Columbia																				T.												T.
Cascadia	Willamette																		T.														T.
Cazadero	...do														.13							.37											0.66
Christmas Lake	Southeast Drainage			.16									T.		T.						.25	.06	.02										0.33
Columbia Mine	Snake	T.	T.	T.	T.	T.																.03											0.04
Condon	John Day	T.	.01																											T.			T.
Coquille River L. H.	Coast																.16					.10	.39	.13									0.89
Cornucopia	Snake				.12																	T.											T.
Corvallis	Willamette												T.		T.					T.	T.	.01											0.01
Cracker Creek	Snake	T.	T.																														
Crescent	Deschutes																				.05	T.											0.12
Dayville	John Day		T.	.07																													0.13
Deadwood	Willamette		.13																														0.00
Diamond "H"	Southeast Drainage																					T.		T.						T.			T.
Doraville	Columbia																																0.00
Drain	Umpqua														.01							.06											0.08
Dufur	Columbia	T.	.01														.10						.35										0.45
Duncan	Umatilla														T.							T.											T.
Echo	...do																						.02										0.02
Elkhorn Ranch	Coast		T.																														0.03
Ella	Columbia	.03	T.																			T.											0.70
Embody	Willamettee		.60	.10																													

TABLA 2.—*Daily precipitation for July, 1910. District No. 12*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Oregon—Cont'd.																																	
Eugene	Willamette																																0.00
Fairview	Coast		.12	T.																													0.12
Fall City	Willamette		.09																														0.09
Fir Glen	Coast		T.																														T.
Florence	do											.01										.01											0.02
Forest Grove	Willamette																																
Fort Rock	Interior		.15	.03											.04						.01												0.23
Galice	Rogue																																0.00
Gardiner	Umpqua																																0.00
Glencoe	Columbia		.05																														0.05
Gibbon	Umatilla																				.07	.40											0.47
Glendale	Umpqua																																0.00
Glenora	Coast	.01																				T.											0.01
Gold Beach	Rogue																																0.00
Granderonde	Coast																																0.00
Granite	John Day	T.																		.20	.34	.02											0.56
Grants Pass	Rogue																																0.00
Grass Valley	John Day																																0.00
Greenhorn	Snake	.01		T.												.04					.14	.02											0.21
Grindstone	Deschutes																				1.20												1.20
Gumboot	Snake																				.06	.54											0.60
Gurdane	Columbia		T.												T.						T.	.17											0.17
Happy Home	Umpqua	.10																															0.10
Hay Creek	Deschutes		.04																														0.04
Hazeldell	Willamette																				T.												T.
Head Works	do																																0.00
Heppner	Columbia		.01																		.01												0.02
Hermiston	Umatilla														.01																		0.01
Hilgard	Grande Ronde															T.					.25												0.25
Hood River	Columbia																																0.00
Hoover	Willamette																																0.00
Howardville Station	Grande Ronde															.03					.10	.04											0.17
Huntington	Snake																																
Ibex Mine	John Day			T.												T.				.05	.07	.02											0.14
Ironside	Snake												.05							.03	.40												0.48
Jacksonville	Rogue																					.22											0.22
Joseph	Grande Ronde			.49	.13											.10																	0.72
Klamath Agency	Klamath			.01																													0.01
Klamath Falls	do																				.26												0.26
La Grande	Grand Ronde		.03													T.					.06	1.07											1.16
Lakeview	Pitt																																0.00
Lilyglen	Rogue			.14																		.05											0.19
Long Creek	John Day			.02																	T.	.21											0.23
Long Valley	Pitt			T.									T.		T.					.04	.05	.02											0.11
Madras	Deschutes	T.												.05							T.												0.05
Maury	do			T.										.03							.05												0.08
McKinzie Bridge	Willamette																																0.00
McMinnville	do		T.																														T.
Meacham	Umatilla																				.80												0.81
Merrill	Interior Drainage			.01																	.04												0.16
Metolius	Deschutes	.08										.04																					0.02
Mikkalo	John Day		.02																			.01											0.08
Miller Prairie	Columbia	.04	.03															.02															0.02
Miramonte Farm	Willamette																																0.00
Monroe	do																																0.00
Mountainhome	Columbia																																0.00
Mount Angel	Willamette																																0.00
Mount Hood	Columbia																																0.00
Mountain Park	do																																0.00
Mountain Ranch	Rogue																																0.00
Musick	Umpqua																																0.00
Newport	Coast																																0.00
Ochoco	Deschutes	.15	T.												T.						.01												0.16
Ochoco Creek	do		.02													T.																	0.02
Owyhee	Owyhee														T.					T.													T.
Paisley	Southeast Drainage		.10																		.20												0.30
Paulina	Deschutes																				T.												T.
Pendleton	Umatilla		T.												T.						.01												0.01
Persist	Rogue																				.13												0.13
Pilot Rock	Umatilla																																0.00
Plush	Southeast Drainage			.47										.05						.20	T.												0.81
Pompeii	Columbia																																0.00
Portland	Willamette																				T.												T.
Post	Deschutes	T.													T.			T.			T.	.10											0.10
Power House	Walla Walla		T.										.12																				0.12
"P" Ranch	Southeast Drainage																																0.14
Prineville	Deschutes	T.	T.	.09											.05						.11												0.11
Prospect	Rogue																				.06												0.06
Ramsey	Columbia		T.																														T.
Range	John Day														T.																		0.10
Ray Creek	Columbia	T.	T.	T.											T.						.10	T.											T.
Reston	Umpqua																				T.												T.
Richland	Snake				T.														T.		T.												
Riverdale Ranch	Deschutes																																0.31
Riverside	Malheur		T.												T.			.08	.18	.05												0.08
Rock Creek	Willamette		.08																		.03												0.03
Roseburg	Umpqua																				T.	.06											0.18
Rosland	Deschutes		.09	.03																													0.00
Salem	Willamette																																
Seneca	Interior															.43																	0.70
Silver Lake	Southeast Drainage			.27																													0.00
Siskiyou	Rogue																																0.16
Sisters	Deschutes	.06													.10																		
Sparta	Snake																	T.															T
Stafford	Willamette															T.					T.	.39											0.39
Starkey	Grande Ronde														T.																		T.
Sugar Creek	Deschutes																																0.00
Summit	Willamette														T.						.03												0.03
Summit Prairie	Deschutes															.01					.15												0.26
Susanville	John Day				.10																T.												T.
Tamarack	do														.05							.01											0.06
Telocaset	Snake																				T.												T.
The Dalles	Columbia														T.	T.					.05	T.											0.05
Tinroof Cabin	Umatilla																																

TABLE 2.—*Daily precipitation for July, 1910. District No. 12*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Oregon—Cont'd.																																	
Toledo	Coast																						.13										0.00
Trask	do																				T.												0.13
Umatilla	Columbia	.05														.01																	0.06
Unity	Snake			T.																.16	.25	.02											0.43
Vale	Malheur				T.																												T.
Valley Falls	Southeast Drainage			.07								T.			T.					T.	.08	.17											0.32
Van	Malheur																			.60		T.											0.60
Wallace Orchard	Willamette																				T.												T.
Walloupa	Grande Ronde			T.												.05					.05	.05											0.15
Wallowa	do			.04	T.											.03					.11	.06											0.24
Wamic	Deschutes																																
Warmspring	do														T.						T.												0.00
Wasco	Columbia																						.03										T.
Welches	do																																0.03
Weston	Walla Walla																																
Williams	Rogue																																
Yonna	Interior Drainage			.22											T.						.04	.04											0.30

TABLE 3.—*Maximum and minimum temperatures at selected stations, July, 1910. District No. 12, Columbia Valley.*

Date.	Montana.						Idaho.																			
	Kalispell.		Missoula.		Afton, Wyo.		Boise.		Bonner's Ferry.		Hotspring.		Lewiston.		Mackay.		Meadows.		Pocatello.		Salmon.		Shoshone.		Vernon.		Wallace.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	75	47	81	52	85	34	84	52	75	41	87	56	83	52	81	49	82	43	87	53	81	51	82	57	84	48	77	41
2...	82	48	89	48	86	37	87	56	64	42	93	52	83	60	80	48	86	39	90	56	89	43	87	51	89	47	80	44
3...	79	49	86	50	86	38	82	54	75	42	90	50	80	62	81	49	84	50	90	60	92	43	85	52	88	46	78	45
4...	71	51	66	51	75	45	75	61	78	45	80	58	83	58	79	40	67	52	78	56	84	53	78	53	82	44	77	47
5...	80	44	81	42	70	31	84	54	73	41	87	48	87	57	87	41	80	38	77	46	77	45	76	42	75	40	80	42
6...	82	44	86	46	80	33	91	59	78	44	98	54	91	58	82	45	87	38	86	48	89	40	86	50	82	38	82	44
7...	78	55	83	50	81	35	89	58	78	40	96	57	91	59	88	51	89	41	88	51	90	47	88	49	86	40	81	49
8...	74	53	76	49	83	37	87	58	80	47	94	55	89	65	89	55	82	43	86	55	87	48	86	54	85	40	80	46
9...	79	49	84	52	82	35	87	56	85	44	90	58	93	59	84	51	88	43	82	55	83	47	83	57	81	56	84	47
10...	80	49	89	49	82	34	91	60	86	44	97	57	96	58	88	50	89	43	88	50	84	48	88	52	86	43	88	46
11...	82	48	88	57	85	40	93	61	88	52	100	58	99	62	88	52	90	42	87	53	87	51	88	55	85	55	90	54
12...	86	52	92	52	85	39	96	61	91	50	100	59	100	66	83	50	90	45	89	60	90	58	90	57	87	49	92	49
13...	93	50	99	50	88	43	103	63	90	48	106	63	99	62	93	45	98	46	94	55	100	45	95	59	93	47	91	49
14...	94	52	102	52	91	44	92	63	94	39	91	64	99	61	87	51	93	48	91	63	96	44	87	62	89	53	97	48
15...	84	61	93	61	79	54	93	64	90	53	95	61	100	62	81	53	98	45	87	61	90	57	85	57	83	57	92	57
16...	93	54	100	53	86	45	97	68	99	50	103	71	103	66	89	52	94	46	94	58	96	52	90	61	86	54	99	52
17...	95	59	101	60	90	50	99	70	93	62	104	.....	89	65	94	51	96	54	90	67	94	57	90	66	90	50	87	54
18...	86	50	84	54	90	52	91	66	90	42	97	.....	95	57	94	56	78	53	95	66	92	55	91	65	89	62	89	42
19...	88	51	98	52	90	51	98	69	93	42	102	.....	101	60	93	63	94	47	96	63	92	52	93	59	89	57	94	45
20...	89	50	85	57	88	48	95	72	88	45	102	.....	84	65	92	62	90	61	89	65	85	58	88	67	86	54	90	44
21...	87	62	93	61	84	50	95	66	94	49	97	.....	99	62	85	56	92	50	91	63	90	54	90	64	86	54	93	57
22...	66	53	72	57	86	44	79	60	87	50	96	.....	77	62	82	50	77	50	85	66	85	44	86	63	82	33	65	52
23...	78	51	83	50	78	34	87	50	65	47	90	.....	88	52	90	46	86	34	84	61	84	40	84	52	82	31	79	41
24...	83	43	93	46	86	36	94	58	83	48	100	.....	90	58	92	51	93	40	94	55	94	40	92	41	84	38	82	46
25...	84	45	93	44	89	43	95	61	86	40	99	.....	92	55	86	55	95	43	96	56	96	48	93	52	86	45	87	47
26...	84	45	90	45	82	46	88	60	93	44	96	.....	88	53	90	54	82	43	85	64	95	45	90	57	88	46	82	47
27...	78	46	88	44	82	41	92	56	85	39	96	67	94	53	81	52	94	39	88	62	91	42	88	65	86	48	84	49
28...	83	50	94	45	83	51	96	66	90	41	100	.....	97	55	83	52	96	40	86	65	94	42	91	61	90	50	88	42
29...	85	52	93	63	87	47	94	60	92	49	99	.....	95	56	90	55	91	46	91	61	91	49	92	60	89	57	88	45
30...	87	48	91	49	84	43	97	63	93	43	101	.....	96	56	91	53	96	43	94	63	93	44	93	60	90	54	90	52
31...	86	47	97	48	81	41	94	63	90	42	94	.....	93	56	90	52	96	45	84	64	94	45	84	64	88	51	86	43
Mns	82.9	50.3	89.7	52.3	84.0	42.0	91.1	60.9	85.4	45.3	96.1	58.1[a]	92.1	59.1	86.9	51.3	89.0	44.8	88.5	58.7	89.8	48.6	87.7	56.9	86.0	48.0	85.5	47.0

Date.	Washington.																									
	Aberdeen.		Blaine.		Colville.		Kosmos.		Lakeside.		North Head.		North Yakima.		Odessa.		Port Crescent.		Seattle.		Sixprong.		Spokane.		Tacoma.		Tatoosh Island.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	66	47	67	50	84	42	65	54	79	53	58	52	81	50	89	49	59	46	64	50	80	48	76	53	65	48	59	48
2...	62	42	69	47	82	43	68	53	83	55	58	52	82	53	82	50	60	45	65	54	79	48	75	55	70	52	58	51
3...	64	43	68	46	83	47	71	49	82	57	57	53	84	56	86	55	57	43	67	52	80	54	79	57	70	51	57	49
4...	67	48	68	38	87	42	73	42	86	58	60	53	87	54	88	50	58	42	71	50	85	55	82	57	72	48	57	50
5...	70	56	72	52	84	40	74	46	86	58	62	54	86	58	85	52	63	51	71	55	86	54	79	56	73	54	58	50
6...	68	53	74	49	87	40	81	42	85	60	58	54	92	55	89	49	60	49	74	56	92	57	84	55	77	52	57	51
7...	68	47	72	54	88	54	79	43	84	66	60	53	92	62	90	48	63	50	74	53	94	61	84	64	75	52	57	51
8...	72	48	73	51	87	51	83	51	86	62	58	54	91	67	89	50	60	48	74	58	91	65	82	60	73	59	54	51
9...	88	59	81	48	80	42	92	46	91	56	60	52	94	63	92	59	79	44	79	58	95	71	87	54	77	55	68	49
10...	89	57	86	50	94	44	97	51	97	60	67	56	98	64	95	59	90	50	86	58	99	67	89	56	87	57	72	53
11...	69	56	76	51	97	44	91	49	99	60	56	55	100	70	98	64	66	50	86	59	102	69	91	61	91	59	59	52
12...	63	52	72	51	98	49	81	49	95	64	56	54	98	68	98	66	58	49	72	54	101	69	94	64	75	54	54	50
13...	65	43	71	51	93	43	78	44	92	62	56	53	94	61	95	59	57	45	66	53	95	62	90	64	66	50	57	51
14...	72	41	72	42	94	42	83	44	88	56	54	50	90	56	95	60	58	38	75	51	90	59	92	60	76	52	57	48
15...	65	50	72	48	92	63	78	53	95	64	58	53	94	60	95	57	60	49	72	55	97	64	92	65	75	54	59	50
16...	65	45	72	42	101	48	79	44	97	62	57	54	95	61	96	59	59	48	71	52	97	65	95	62	75	48	59	49
17...	70	48	68	49	96	48	69	50	91	61	59	53	93	62	90	54	60	44	65	53	95	62	86	63	70	52	58	50
18...	73	41	74	41	92	42	86	37	89	53	55	50	90	52	93	40	68	38	73	52	91	54	89	51	72	53	61	48
19...	71	41	76	43	96	44	84	48	93	47	54	50	99	51	99	45	63	40	82	55	101	62	93	51	79	51	59	50
20...	73	48	82	46	95	44	80	46	98	51	56	46	93	62	100	50	79	43	82	59	95	71	90	53	85	55	62	50
21...	65	45	71	48	95	51	73	52	92	53	56	52	94	55	96	52	64	51	68	56	92	59	92	59	67	55	53	50
22...	63	51	67	54	86	51	71	51	75	48	60	52	81	53	89	52	60	51	67	54	79	54	71	54	66	53	55	50
23...	68	47	71	54	84	43	81	46	84	50	63	54	88	47	87	50	61	51	69	54	90	52	80	50	71	53	57	51
24...	70	41	70	51	87	41	76	51	85	56	58	55	90	52	89	50	60	49	68	56	91	60	83	57	70	57	58	52
25...	66	43	74	39	81	43	74	42	85	56	57	53	91	54	88	45	59	45	71	54	94	56	85	52	73	52	57	51
26...	71	46	68	49	86	40	71	46	84	60	56	52	90	52	88	50	61	43	63	51	89	52	82	59	63	52	57	49
27...	70	48	72	40	87	40	83	36	88	54	56	50	89	57	91	52	59	38	74	48	93	55	86	58	75	45	53	48
28...	64	46	75	41	94	42	78	40	95	57	58	52	94	58	96	50	58	49	72	51	97	61	90	52	75	50	55	50
29...	68	47	65	51	95	43	73	45	94	59	60	54	94	59	93	53	59	50	69	52	94	62	90	57	67	50	57	50
30...	65	50	67	48	94	39	75	44	94	63	56	53	94	55	93	49	58	50	61	52	95	51	90	62	64	51	58	49
31...	64	52	67	49	90	38	76	45	90	62	56	51	93	56	93	46	58	45	62	53	92	57	87	55	61	52	56	50
Mns	58.8	47.8	72.0	47.5	90.0	44.6	78.2	46.4	89.1	57.5	57.9	52.5	91.3	57.5	91.8	52.4	62.4	46.3	71.4	53.8	92.0	59.2	86.0	57.3	72.7	52.5	58.0	50.0

TABLE 3.—*Maximum and minimum temperatures at selected stations for July, 1910. District No. 13*—Continued.

Date.	Oregon.																					
	Walla Walla, Wash.		Ashland.		Baker City.		Eugene.		Gold Beach.		Hermiston.		Marshfield.		Portland.		Prineville.		Roseburg.		The Dalles.		Vale.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	86	54	78	49	.....	.....	70	52	62	49	82	53	68	51	72	56	72	49	74	49	74	51	69	43
2	92	56	74	51	.....	.....	68	50	64	51	86	55	68	51	68	51	74	50	74	49	74	52	69	44
3	86	57	74	51	.....	.....	72	50	62	49	84	55	68	51	68	51	74	50	74	49	74	52	69	44
4	86	57	71	49	.....	.....	72	50	62	49	84	55	68	51	68	51	74	50	74	49	74	52	69	44
5	86	56	74	49	.....	.....	72	50	62	49	84	55	68	51	68	51	74	50	74	49	74	52	69	44
6	90	60	91	57	.....	.....	86	54	68	51	90	60	72	54	72	54	86	54	86	54	86	54	98	54
7	90	60	95	56	.....	.....	86	54	68	51	90	60	72	54	72	54	86	54	86	54	86	54	98	54
8	90	60	95	56	.....	.....	86	54	68	51	90	60	72	54	72	54	86	54	86	54	86	54	98	54
9	92	60	95	56	.....	.....	86	54	68	51	90	60	72	54	72	54	86	54	86	54	86	54	98	54
10	97	64	97	60	.....	.....	90	54	68	51	94	60	72	54	72	54	86	54	86	54	86	54	98	54
11	100	68	93	64	.....	.....	90	54	68	51	94	60	72	54	72	54	86	54	86	54	86	54	98	54
12	96	70	93	64	.....	.....	90	54	68	51	94	60	72	54	72	54	86	54	86	54	86	54	98	54
13	96	68	93	64	.....	.....	90	54	68	51	94	60	72	54	72	54	86	54	86	54	86	54	98	54
14	96	68	93	64	.....	.....	90	54	68	51	94	60	72	54	72	54	86	54	86	54	86	54	98	54
15	96	68	93	64	.....	.....	90	54	68	51	94	60	72	54	72	54	86	54	86	54	86	54	98	54
16	96	68	95	64	.....	.....	90	54	68	51	94	60	72	54	72	54	86	54	86	54	86	54	98	54
17	96	68	95	64	.....	.....	90	54	68	51	94	60	72	54	72	54	86	54	86	54	86	54	98	54
18	96	68	95	64	.....	.....	90	54	68	51	94	60	72	54	72	54	86	54	86	54	86	54	98	54
19	100	68	95	64	.....	.....	90	54	68	51	94	60	72	54	72	54	86	54	86	54	86	54	98	54
20	102	68	91	64	.....	.....	90	54	68	51	94	60	72	54	72	54	86	54	86	54	86	54	98	54
21	97	64	86	57	.....	.....	86	54	68	51	94	60	72	54	72	54	86	54	86	54	86	54	98	54
22	95	64	86	57	.....	.....	86	54	68	51	94	60	72	54	72	54	86	54	86	54	86	54	98	54
23	97	64	91	57	.....	.....	86	54	68	51	94	60	72	54	72	54	86	54	86	54	86	54	98	54
24	95	64	91	57	.....	.....	86	54	68	51	94	60	72	54	72	54	86	54	86	54	86	54	98	54
25	90	64	91	56	.....	.....	86	54	68	51	94	60	72	54	72	54	86	54	86	54	86	54	98	54
26	95	62	90	57	.....	.....	86	54	68	51	94	60	72	54	72	54	86	54	86	54	86	54	98	54
27	95	62	90	56	.....	.....	86	54	68	51	94	60	72	54	72	54	86	54	86	54	86	54	98	54
28	95	62	90	56	.....	.....	86	54	68	51	94	60	72	54	72	54	86	54	86	54	86	54	98	54
29	93	62	90	56	.....	.....	86	54	68	51	94	60	72	54	72	54	86	54	86	54	86	54	98	54
30	93	62	90	56	.....	.....	86	54	68	51	94	60	72	54	72	54	86	54	86	54	86	54	98	54
31	93	62	90	56	.....	.....	86	54	68	51	94	60	72	54	72	54	86	54	86	54	86	54	98	54
Means	90.4	62.0	88.8	56.9	.....	.....	81.8	50.9	65.8	46.1	93.6	56.8	65.0	50.6	78.1	56.1	88.6	44.8*	84.5	52.5	87.5	57.7	99.5	46.7

PAPERS ON CLIMATOLOGY IN RELATION TO AGRICULTURE, TRANSPORTATION, WATER RESOURCES, ETC.

STUDIES ON THE PHENOMENA OF THE EVAPORATION OF WATER OVER LAKES AND RESERVOIRS.

By Prof. FRANK H. BIGELOW.

VII.—SUMMARY OF THE RESULTS OF THE SALTON SEA CAMPAIGN.

A brief summary of the general results of the research regarding the laws of the evaporation from large surfaces of water is here presented, in anticipation of the general report upon which they are based. The report contains a description of the stations occupied; the instruments used in the observations; the total monthly amounts of evaporation in different parts of the United States on the pans as located in places of varying environments; the computed values of the C_2, C_3, C_4, coefficients in the Bigelow, Dalton, and Mammoth formulas, respectively; a discussion of the cause of the variation of these coefficients of diffusion with the size of the pans; and the attempt to fix the values of C_2 and C_3 for a very large pan, as the surface of a lake or reservoir. Table 1 contains the annual mean values of these coefficients, which illustrate the leading facts. The report contains the constituent values in the *diurnal* and the *annual* periods, of which these values are the final mean. They are arranged by the diameter of the pans, 2-foot, 3-foot, 4-foot, 6-foot, 12-foot, and the stations are grouped together near the sea-level plane, and on the Rocky Mountain plateau.

TABLE 1.—*Mean values of the C_2-coefficients for pans of different sizes in* $E_0 = C_2 \frac{e_s}{e_d}\frac{de}{dS}(1+.070\,w)$.

Stations.	Pan.	2-foot.	3-foot.	4-foot.	6-foot.	12-foot
Salton Sea, Tower No. 1	1	0.039				
Do	2	0.043				
Do	3	0.044				
Do	4	0.043				
Do	5	0.043				
Salton Sea, Tower No. 2	1			0.036		
Do	2			0.037		
Do	3			0.038		
Do	4			0.038		
Do	5			0.039		
Salton Sea, Tower No. 4	1			0.035		
Do	2			0.037		
Do	3			0.037		
Do	4			0.037		
Do	5			0.036		
Mammoth, Cal		0.034			0.029	
Brawley, Cal		0.033			0.026	
Mecca, Cal		0.039			0.030	
Indio, Cal		0.040			0.032	
North Yakima, Wash			0.037	0.036		
Hermiston, Oreg			0.045	0.039		
Do			0.044			
Granite Reef, Ariz			0.046	0.041		
Do				0.042		
California, Ohio		0.042		0.032*		
Birmingham, Ala		0.041		0.031*		
Dutch Flats, Nebr				0.038		
Minidoka Dam, Idaho			0.046			
Deer Flat, Idaho	A		0.042	0.044		
Do	B		0.044	0.043		
Lake Kachess, Wash			0.042			
Ady, Klamath, Okla	A		0.044	0.033		
Do	B		0.045			
Fallon, Nev			0.038	0.028		
Lake Tahoe, Cal			0.040	0.036		
Elephant Butte, N. Mex			0.044	0.040		
Carlsbad, N. Mex			0.036	0.034		
Do			0.034	0.027		
Lake Avalon, N. Mex			0.038	0.032		
Sand Key, Fla				0.022*		
Eastport, Me				0.023*		
Rangeley, Me			0.022*			
Salt Creek, Cal		0.031*		0.030*	0.026*	0.025*
Means		0.040	0.042	0.037	0.029	0.025

*Floating, or in very humid locations, omitted here.

1. There is no evidence that the water in pans of the same size evaporates faster on the Plateau levels, 4,000 feet, than at sea level, and the formula should not contain any barometric pressure term.

2. The evidence is decisive, by the 3 formulas based upon the terms $\frac{e_s}{e_d}\frac{de}{dS}$, $(e_s - e_d)$, and $(e_t - e_d)$, respectively, that water evaporates much faster from small pans than from large pans. This is because the wind action tends to clear a small pan of vapor, making over it a dryer mixture, than it does a large pan or water surface, where vapor is merely transported from one side of the water area to the other side of it. Especially, over a lake or reservoir the vapor is carried along from point to point without drying the mixture of vapor and air resting on the water surface. This phenomenon is plainly seen at times in the early morning when the fog resting on a lake begins to clear with the increase of temperature, and when the wind is moving the columns of vapor in oblique lines while the evaporation proceeds. It has made our research very difficult to incorporate this fact, because of the necessity of extending the series of coefficients from small pans to a large water surface.

TABLE 2.—*Mean values of the C_3-coefficients for pans of different sizes in* $E_0 = C_3\, 2\,(e_s - e_d)\,(1+.070\,w)$.

Stations.	Pans.	2-foot.	3-foot.	4-foot.	6-foot.
Salton Sea, Tower No. 1	1	0.0051			
Do	2	0.0055			
Do	3	0.0059			
Do	4	0.0058			
Do	5	0.0059			
Salton Sea, Tower No. 2	1			0.0044	
Do	2			0.0046	
Do	3			0.0048	
Do	4			0.0049	
Do	5			0.0051	
Salton Sea, Tower No. 4	1			0.0047	
Do	2			0.0050	
Do	3			0.0051	
Do	4			0.0050	
Do	5			0.0048	
Mammoth, Cal		0.0050			0.0039
Brawley, Cal		0.0049			0.0035
Mecca, Cal		0.0054			0.0040
Indio, Cal		0.0054			0.0043
California, Ohio		0.0073*		0.0054	
Birmingham, Ala		0.0078*		0.0049	
Sand Key, Fla		0.0042			
Eastport, Me		0.0063			
Rangeley, Me			0.0044		
Means		0.0054		0.0049	0.0039

*Omitted.

TABLE 3.—*Mean values of the C_4-coefficients for pans of different sizes in* $E_0 = C_4 \cdot 2\,(e_t - e_d)\,(1+.070\,w)$.

Stations.	Pans.	2-foot.	Stations.	Pans.	4-foot.	6-foot.
Salton Sea, Tower No. 1	1	0.0044	Salton Sea, Tower No. 2	1	0.0042	
Do	2	0.0046	do	2	0.0038	
Do	3	0.0048	do	3	0.0038	
Do	4	0.0045	do	4	0.0038	
Do	5	0.0047	do	5	0.0036	
			Salton Sea, Tower No. 4	1	0.0046	
			do	2	0.0042	
			do	3	0.0041	
			do	4	0.0039	
			do	5	0.0037	
Mammoth, Cal		0.0039				0.0031
Brawley, Cal		0.0043				0.0032
Mercer, Cal		0.0047				0.0034
Indio, Cal		0.0042				0.0036
California, Ohio		0.0097*			0.0098*	
Birmingham, Ala		0.0107*			0.0082*	
Means		0.0045	Means		0.0040	0.0033

*Means omitted.

3. The Bigelow formula depending on $\frac{e_s}{e_d}\frac{de}{dS}$ has no annual period in the C_2—coefficient; the dinural period is very small, but it shows a slight deficiency in the forenoon when the water temperature is rising, and a small increase in the afternoon when the water temperature is falling. There may be an

interaction of latent and specific heats, so that there is resistance to molecular diffusion in the forenoon, but acceleration in the afternoon. The Dalton formula in $(e_s - e_d)$ is closely in conformity with the Bigelow formula so far as the periodic action is concerned in *dry climates*, but in humid climates the cofficients in the Dalton formula become irregular, especially in the cold part of the day, while the coefficients in the Bigelow formula continue quite steady. The Mammoth formula depending upon $(e_t - e_d)$ has a large annual, and a considerable diurnal period in dry climates; it is erratic in humid climates, and generally the argument is not valuable because the term becomes much too small to compensate for the actual observed evaporation. The Mammoth and the Marvin formulas should not be further considered.

4. The Dalton formula has for one of its implied results the conclusion that evaporation ceases when $e_s = e_d$, while the Bigelow formula admits that it can continue, since $e_s/e_d = 1$. This brings up a very difficult point to be determined, and there are two considerations bearing upon it: (*a*) If a water surface evaporates into a *perfect calm* it soon covers itself with a film of vapor, through which further molecular bombardment can not penetrate, so that this layer acts like oil to damp further action. If this film is cleared to any extent by the wind the evaporation will continue, even though $e_s = e_d$. Saturation of air near a water surface does not necessarily imply stagnation of the circulation. Indeed, in the open air stagnation is so rarely a fact that evaporation rarely ceases. (*b*) Direct experiment on evaporation during fogs and rainy intervals proves that evaporation seldom stops in practical open-air conditions. A self-register evaporometer at Los Angeles continued to record to the amount of about 50 per cent of the usual evaporation during the hours marked fog, the registration being for each hour during the day, the record extending from March to June, 1910; at Eastport, Me., evaporation is almost regularly recorded during the dense fogs that prevail in that locality in the spring and summer months; at Rangeley, Me., records of evaporation during rainy intervals were the common rule. These observations were made by 5 different gages at Rangeley and by 3 gages at Eastport, Me., on the same 3-foot evaporation pan, and the harmony of the individual observations excludes all doubt of the fact. These results confirm the observations made by Lehman at Birmingham, Ala., in 1909. They, also, weaken the claim of the Dalton theory of potential-differences as fundamental in practical open-air work, because stagnation rarely occurs, and water seldom evaporates into theoretically saturated mixtures.

5. In order to study the phenomenon of evaporation into varying percentages of mixture of dry air and vapor, as the latter is blown to the leeward side of a pan by the wind, the following experiments were carried out: (1) Four shallow pans 9 inches square were placed in a row on a wind vane, turning into the wind so that one pan was always to windward and the fourth pan to leeward of the row. The last pan evaporated about 90 per cent of the first pan. Similarly, sections on a large circular pan have minimum evaporation on the leeward side. (2) A larger vane, carrying four 2-foot circular pans, indicated a similar result, but less clearly on account of the eddies formed by the circulating wind among the pans. (3) Thirty small pans were set in a nest on a table, in 5 rows containing 6 pans each, but as they were not turned always to face the wind on the same side, and as the sun had too much effect on the south and west outside rows the result was indecisive. It suggested that the minimum evaporation was at a point about two-thirds the distance from the south side to the north side on the central line.

6. A pan of very clear fresh water was evaporated along side of a pan filled with brackish Salton Sea water, which was gradually concentrated by adding water from the sea from November to May without emptying the old water. The brackish water evaporated a little slower than the fresh water, to the amount of *2 per cent* in April and May. No correction has been applied on pans refilled frequently in the usual routine.

7. In order to test the ratio of evaporation from pans of different sizes, our records include the following combinations: (1) A 4-foot pan self-registered hourly and a 2-foot pan along side on the ground near Tower No. 1; (2) a row of 3 pans, 2-foot, 4-foot, 6-foot in diameter, on a platform on Tower No. 3, about half a mile from shore, and as near the water as was practicable; (3) a row of 4 pans 2-foot, 4-foot, 6-foot, 12-foot, on a series of adjoining rafts floating in the Salt Creek slue in calm water. The ratios are quite steady and the results have been incorporated into the final value of the coefficient,

$$C_2 = 0.023\ (1.23)^n \text{ for 4-hour intervals,}$$

where $n = 0$ for large open water areas,
$n = 1$ for 6-foot pans,
$n = 2$ for 4-foot pans,
$n = 3$ for 2-foot pans,
$n = 4$ for ordinary dry air.

The value of the coefficient for $n = 1$ is fairly well determined, and it is interpolated for $n = 4$. These should be further verified if possible.

8. The practical check on $C_2 = 0.023$ is to be found in the actual evaporation of the Salton Sea itself as measured. In cooperation with the United States Geological Survey, we have the following data for the year June 1, 1909, to June 1, 1910:

	Inches.
1. Actual fall of the Salton Sea level	51.00
2. Inflow through the New and Alamo rivers	12.00
3. Accumulation from annual precipitation	6.00
Total amount due to evaporation	69.00

Taking the daily records of the surface temperatures of the Salton Sea water S_0, and using the values of the vapor pressure e_d and wind velocity w at the pans (1), at the foot of Towers No. 2 and No. 4, as near the water surface as it was practicable to measure air conditions, and assuming various values for C_2, as applied by the formula by adding up to amounts for the intervals throughout the year, it turns out that $C_2 = 0.022$ or $C_2 = 0.023$. Since the evaporation in the year ending June 1, 1908, was 51 inches, and for the year ending June 1, 1909, was 59 inches, I am inclined to fix the value, $C_2 = 0.023$.

The values of C_2 on the 12-foot pan, raised a few inches above the water surface was, $C_2 = 0.025$, and a probable reduction would bring it to $C_2 = 0.023$ for a free water surface. The values of C_2 for Birmingham and Cincinnati, in semihumid climates, for a floating 4-foot pan shielded by a surrounding breakwater, was $C_2 = 0.032$ and by the reduction factor $(1.23)_4$ it would indicate $C_2 = 0.021$ for an open water surface. In humid climates, especially during the prevalence of fogs and rain, the evaporation is into such an air as always pertains to the *thin layer of vapor resting on the water surface in any climate while undisturbed by the wind*. Our record for the humid stations gives,

for Sand Key, Fla., $C_2 = 0.022$,
for Eastport, Me., $C_2 = 0.023$,
for Rangeley, Me., $C_2 = 0.023$.

It is on the basis of these widely-separated stations that we accept $C_2 = 0.023$ for the coefficient of evaporation from large water surfaces in 4-hour intervals. For the 24-hours the coefficient is $C_2 = 0.138\ (1.23)^n$ per day.

9. The final formulas become,

Bigelow, $E_{0\,(\text{day})} = 0.138\ (1.23)^n \dfrac{e_s}{e_d} \dfrac{d_e}{dS} (1 + .070)\ w$ in centimeters.

Dalton, $E_{0\,(\text{day})} = 0.036\ (1.23)^n\ (e_s - e_d)\ (1 + .070)\ w$ in centimeters.

In the semihumid and humid climates the values of the C_2 coefficients in the Dalton formula are much looser, and not so much evidence exists of the reliability of this coefficient. Indeed, it is doubtful whether any constant can be found for this formula.

10. Careful experiments made at Rangeley with the several types of gages for measuring the water heights in pans come to the following conclusions: The improved form of still-well, with heavy base and small intake pipe, is as satisfactory as possible. It does good work in ordinary winds, and it may not be practicable to make one that is any better. *The several types of gages give substantially the same results in ordinary or calm winds when the illumination is good.* In night work, or in dark or dusky weather, it sometimes becomes very difficult to see the setting point of the contact gages when in contact with the water surface, so that the burette tubes then assert their general superiority. The magnifying burette tube has some features which render its record less accurate than the plain burette tube. All these instruments require good observing to measure the tenth millimeter on the water height. The following precautions are suggested: (1) *Plain burette tube.*—Lay a piece of black-surfaced canvas down under the place where the meniscus is read against the sky line, and the apparent lowest edge will look like a *fine black line* against the millimeter scale. After filling the tube lift it to the point of best illumination as the *same level* with the eye to avoid a parallax in reading the curved meniscus. The tube should be *wet above* the reading height, and the water should always flow *upward* to the gravity level. The handling and the reading of the tube must habitually be done in precisely the *same way* at the different observations. The mean of three readings is usually an accurate measure of the water height to the *tenth millimeter*. (2) The magnifying burette tube is easily read, so far as scale is concerned. However, it has a short range, and would not cover 36-48 hours' evaporation, Saturday to Monday, or longer, in the arid, hot climates of the Southwest. The neck should reach lower into the pan in order to avoid the surface surgings in high winds on large pans; the valve should be made to turn horizontally in order to avoid the vertical jump in closing, which may become very irregular whenever it sticks a little or becomes clogged in dirty and alkaline waters; the drip must be handled in a uniform manner from one observation to another. (3) The micrometer gage is very easy to read, and it is an excellent instrument when the seeing and illumination is good. In some kinds of light it is very difficult to recognize the disturbance rings, and in reading large pans, as 6-foot pans when the point is beyond ordinary eye focus length, it often happens that an observer can not tell the instant of contact. If an observer has a poor eyesight, if the larger pan is rocking behind a heavy breakwater, it becomes exceedingly difficult to make the required setting with accuracy. In these cases the plain burette tube is of advantage, because it is filled quite mechanically and lifted for reading into the most favorable light on the level with the eye. (4) The vernier hook gage with *point moving upward* is an excellent instrument in places convenient to the eye, and with good illumination, but has the same difficulty as mentioned with the micrometer gage. (5) The vernier hook gage, with *flattened point moving downward*, is superior to the preceding type, because the water hollow which follows the retreating wire end, and is preserved to the depth of about one millimeter, suddenly snaps at a given level in a very conspicuous manner. This phenomenon makes it very easy to read the contact height under conditions not favorable to the gages 3 and 4. It may be said that evaporation work in windy places is much easier with the plain burette tube than in calm, foggy, or rainy places with the venier hook gages.

11. It is evident that the research of the Salton Sea campaign, while settling a number of important points in evaporation, has raised a series of difficult questions. The theoretical side of the problem, the application to the thermodynamic theories, has not been attempted as this would require an exclusive study under laboratory conditions and processes. Practically it seems necessary for engineers to adopt a standard pan and reduce the observed readings to the open water surface. Thus the evaporation from a 4-foot standard pan, when corrected for temperature and wind and multiplied by the factor 66 per cent is about what observation suggests. If a water thermometer on a small raft in the lake measures S_0, and a sling psychrometer measures e_d through t and t_1, and an anemometer placed as near the water as possible is used for the wind velocity, then the coefficient is $C=0.138$ for 24-hour intervals. For the formula, use the mean values of S_0, e_s, e_d, w, taken at readings made about 6 a. m. and 2 p. m., the times of minimum and maximum meteorological conditions. If any reservoir, where the inflow is measured accurately and the rainfall can be fully accounted for, can be observed for some time it may be possible to further check the accuracy of this formula. Since local conditions count so much on the action of an evaporation pan it would not be possible to improve this formula by any small number of observations. The formula can easily be extended to working tables whenever it is felt that the adopted coefficients of this report are reliable.

WEATHER, FORECASTS, AND WARNINGS FOR THE MONTH.

By EDWARD H. BOWIE, in charge of Forecast Division.

Drought which set in over large areas west of the Mississippi River and in the upper Mississippi Valley and the upper Lake region during the month of June continued and became very pronounced in these regions during July; and toward the close of the month droughty conditions prevailed in the Middle Atlantic and the New England States. The rainfall was generally in excess of the normal in the Ohio Valley and the east Gulf and South Atlantic States, and over local areas in the Rocky Mountain region. Temperatures were above the normal for the month over practically the entire country, and they were excessively high the greater part of the month in the Plains States, the Northwest, and the Mississippi Valley.

There were no storms of violence during the month, and no storm warnings were ordered, although advisory warnings were distributed on three occasions for disturbances of moderate intensity that passed eastwardly over the Great Lakes, attended by squalls and thunderstorms. Special forecasts were issued regularly each week during the month, and special attention was given in press reports and the daily forecasts to the beginning and the ending of periods of extremely high temperature.

The month opened with an area of low barometric pressure over the Mississippi Valley, and, under its influence, local showers and thunderstorms occurred quite generally during the first three days of the month in the Gulf and South Atlantic States and the Ohio Valley.

The weekly forecast issued on Sunday, July 3, follows:

A moderation of the warm wave that prevails in the Middle Atlantic and New England States, the Lake region, and the Mississippi and Ohio valleys will set in during Sunday night and Monday and be followed by several days of moderate temperature in these regions. A reaction to higher temperature is indicated for the Lake region and the Ohio and Mississippi valleys Wednesday, and the Middle Atlantic and New England States the latter part of the week. Warm weather will continue throughout the week in the Southern States, the Plains States, and the Rocky Mountain and Plateau regions. There will be showers Monday in the Ohio Valley and the Eastern States, and showers will occur at frequent intervals during the week in the South Atlantic and Gulf States. The week, as a whole, will be one of generally fair weather in all northern and western districts.

The Mississippi Valley disturbance moved eastward and reached New England on the 4th, attended by local rains and thunderstorms in the Middle Atlantic and New England States on the 3d and 4th. High pressure that developed in the rear of this disturbance on the 3d, moved southeastwardly from the Lake region and terminated a warm wave of moderate intensity that had prevailed, with excessive humidity, for several days in the Mississippi and Ohio valleys, the Lake region, and the Middle Atlantic and New England States. The warm wave announced for the eastern districts set in as forecast, and on the 8th and 9th the warmest weather of the season prevailed in the Eastern States. The weather remained generally fair over the northern and western districts, except that there were widely scattered showers near the close of the week in the Plains States, the Rocky Mountain region, the upper Mississippi Valley, and the upper Lake region, attending a disturbance of moderate intensity that moved eastward over these regions. Showers occurred almost daily in the South Atlantic and east Gulf States. High temperatures were general during the week in the Rocky Mountain and Plateau regions and in the interior of the Pacific States.

The weekly forecast, issued Sunday, July 10, follows:

A reaction to lower temperature is indicated for Monday in the lower Lake region and the Ohio Valley, and by Monday night and Tuesday in the Middle Atlantic and New England States, following which nearly normal temperatures will prevail in these regions during the remainder of the week beginning July 11. Moderately high temperatures will prevail during the week in the South Atlantic and Gulf States and warm weather will continue in the region west of the Rocky Mountains. In the upper Lake region, the upper Mississippi Valley and the Plains States, and the Northwest, temperatures near or below the normal will prevail during the next several days. There will be local rains at the beginning of the week in the Atlantic States and by the middle of the week there will be scattered showers in the Mississippi Valley and the Northwest. Fair weather will prevail during the greater part of the week in the Rocky Mountain and Plateau regions and the Pacific States. Local rains will continue in the Southern States.

The week beginning July 11 opened with high pressure off the south Atlantic coast, and a disturbance of moderate intensity over the Great Lakes. This disturbance moved thence, attended by showers and thunderstorms, over all eastern districts during the first part of the week, and it was followed by a reaction to lower temperature throughout the Lake region, the Ohio Valley, and the Middle Atlantic and New England States, dissipating the warm wave that had prevailed in these regions since July 8. Advisory warnings of thunderstorms and squalls were distributed to points on the Great Lakes in connection with this storm, on the morning of July 10, and again on the 12th, for thunderstorms that attended a secondary disturbance that developed over Lake Michigan during the night of the 11th.

Showers continued during the week in the Southern States, and by the middle of the week showers set in over the Plains States and the upper Mississippi Valley, attending an area of low barometric pressure that occupied the extreme Northwest on the 13th. This disturbance moved eastward across the Northern States to New England, attended by local showers and thunderstorms in nearly all parts of the country.

The week was unusually warm over the Rocky Mountain and Plateau regions and in the interior of the Pacific States, a condition which has been observed to occur in the summer season when the pressure is above the normal over the North Pacific Ocean. The warm wave spread eastward from the Rocky Mountain region and covered the Plains States and the Northwest on the 14th, when temperatures above 100° were recorded in Kansas, North Dakota, South Dakota, Montana, and Wyoming, and at the close of the week it had become general in the Middle West and the Eastern States.

At the time of the warm wave in the Eastern States, Mr. C. J. Glidden ascending in a balloon near Andover, Mass., found that the atmosphere was excessively warm to a height of 2,100 feet. Much distress and many prostrations and deaths were caused by the excessive heat and high humidity in the larger cities of the Middle West and the Eastern States.

High pressure over the Atlantic Ocean in middle latitudes gave generally fair weather during the middle of the month over Europe, following a period of unusually heavy rains extending through several weeks.

The weekly forecast, issued Sunday, July 17, follows:

Temperatures below the normal and generally fair weather are indicated for the first half of the week in the Middle Atlantic and New England States, the Lake region and the Ohio Valley, and temperature somewhat lower than that of the preceding week is indicated for the Southeastern States. The week will open with high temperatures in the Plains States and the Northwest, and warmer weather will prevail in the Mississippi Valley during the middle of the week and over the eastern half of the country beginning Wednesday. There will be a reaction to somewhat lower temperature in the extreme Northwest by Monday night or Tuesday and in the northern Plains States by Wednesday. High temperatures are indicated for the Southwest. A disturbance will form over the western Plateau region Monday and move eastward, attended by showers in the Middle West by Wednesday and in the eastern half of the country during the latter part of the week. Showers are also indicated for the first half of the week in the South Atlantic and East Gulf States and Tennessee. The weather will be generally fair during the week in the Northwestern States, the Plateau region, and the Pacific States.

The disturbance previously referred to as having occupied the Northwest on the 14th moved to the north Atlantic coast on the

17th, and was followed by an extensive area of high barometric pressure from the region north of the Great Lakes; this area of high pressure with cool northerly winds terminated the excessively warm weather over the eastern half of the country during the 17th and 18th.

It is worthy of note that the high barometric pressure that terminated the warm wave in the eastern districts apparently had its origin over eastern Siberia 15 days previously to its appearance over the Great Lakes, and with low and falling barometer over the middle latitudes of the Atlantic Ocean it was effective in dispersing the warm weather in the eastern half of the country.

Cool weather continued in the Eastern States until after Wednesday, the 20th, when a gradual change to higher temperature overspread the eastern districts. The temperature continued abnormally high during the week in the Southwestern States, the Plains States, and the Northwest, where temperatures above 100° and "hot" winds occurred on several days. The latter part of the week was marked by a change to lower temperature and local rains in the Northwestern States, attending an extensive disturbance that apparently developed over the North Pacific Ocean on the 21st and moved thence to the Northwestern States at the close of the week. A disturbance of minor intensity moved eastward from the region of the Great Lakes during Thursday and Friday, attended by scattered showers and thunderstorms in the Lake region, New York, and New England. The usual summer rains continued during the week in the South Atlantic and Gulf States. There were no rains of consequence during the week in the greater part of the country west of the Mississippi River, excepting local showers at its close in the Northwest and the lower Missouri Valley.

A disturbance of considerable intensity passed over the British Isles during the 21st and 22d; apparently the same disturbance that passed eastwardly from the north Atlantic coast on the 17th. It caused rains and strong winds during its passage across the north Atlantic Ocean and northern Europe.

The weekly forecast, issued Sunday, July 24, follows:

The general pressure distribution over the North American Continent and the adjacent oceans is such as to indicate that the coming week will be one of high temperature over the greater part of the country east of the Rocky Mountains and in the Southwest. A disturbance that is over the Great Lakes will move eastward and cause local showers and thunderstorms Sunday night and Monday in the lower Lake region, northern New York and northern New England. Another disturbance will appear in the Northwest on Monday or Tuesday and move eastward along the northern border and reach the St. Lawrence Valley by the 29th. It will be attended by local rains. There are no indications of general rains during the week, and such as may occur will be confined mostly to the Northern States, from the Missouri Valley to New England and the Southeastern States.

Advisory storm warnings were issued the morning of the 24th, for squalls and thunderstorms over the lower Lakes attending an area of low barometric pressure that was then central over upper Michigan. The conditions occurred as forecast. This disturbance disappeared over the Canadian Maritime Provinces on the 25th. Following the disappearance of this low area, the pressure remained high off the south Atlantic coast and low in the Plains States and the Northwest, a condition that developed a disturbance in the Northwest on the 26th. This disturbance moved eastward, following about the same track as that which immediately preceded it and reached the Atlantic States on the 28th. It was attended by local rains over the Mississippi Valley, the Lake region and the Eastern States, and heavy local rains occurred in the Rocky Mountains region. Throughout the week the temperature remained above the normal over practically all parts of the country east of the Rocky Mountains, and the heat wave continued in the Middle West and the Southwest until the close of the month, when a pronounced area of high barometric pressure moved southeastwardly from the Northwest, and dispelled the warm wave in all parts of the country except the extreme Southwest. The breaking of this hot wave did not occur until five or six days after the pressure had fallen to below the normal over the middle latitudes of the Atlantic Ocean.

Maximum wind velocities.

Stations.	Date.	Velocity.	Direction.	Stations.	Date.	Velocity.	Direction.
Cleveland, Ohio	27	54	n.	Mount Tamalpais, Cal.	2	64	nw.
Columbia, Mo	9	58	n.	Do	3	63	nw.
Do	17	52	n.	Do	14	50	sw.
Detroit, Mich	24	60	w.	Port Huron, Mich	24	50	nw.
Lincoln, Nebr	2	50	ne.	St. Louis, Mo	25	58	nw.
Modena, Utah	3	56	sw.	Sioux City, Iowa	7	54	s.

Average temperatures and departures from the normal.

Districts.	Number of stations.	Average temperatures for the current month.	Departures for the current month.	Accumulated departures since January 1.	Average departures since January 1.
		°	°	°	°
New England	12	70.4	+ 1.6	+14.4	+ 2.1
Middle Atlantic	15	75.4	+ 0.9	+ 9.8	+ 1.4
South Atlantic	10	78.6	− 0.5	+ 2.7	+ 0.4
Florida Peninsula*	8	80.6	− 0.6	− 2.3	− 0.3
East Gulf	11	79.0	− 1.3	− 2.0	− 0.3
West Gulf	10	81.8	0.0	+ 2.4	+ 0.3
Ohio Valley and Tennessee	13	76.2	− 0.6	− 0.3	0.0
Lower Lakes	10	72.1	+ 0.6	+ 7.2	+ 1.0
Upper Lakes	12	69.8	+ 2.0	+18.6	+ 2.7
North Dakota*	9	69.4	+ 1.4	+27.2	+ 2.9
Upper Mississippi Valley	14	75.8	+ 0.4	+10.0	+ 1.4
Missouri Valley	12	76.3	+ 0.6	+16.1	+ 2.3
Northern slope	9	70.2	+ 2.1	+23.0	+ 3.3
Middle slope	6	78.6	+ 1.9	+15.8	+ 2.3
Southern slope*	7	83.3	+ 2.7	+ 9.0	+ 1.3
Southern Plateau*	10	79.9	+ 0.2	+10.3	+ 1.5
Middle Plateau*	10	72.2	+ 1.2	+10.5	+ 1.5
Northern Plateau*	10	71.1	+ 2.2	+12.1	+ 1.7
North Pacific	7	60.6	− 0.6	+ 0.5	+ 0.1
Middle Pacific	5	66.2	− 0.7	− 0.4	− 0.1
South Pacific	4	7.09	+ 1.0	+ 8.1	+ 1.2

*Regular Weather Bureau and selected cooperative stations.

Average precipitation and departures from the normal.

Districts.	Number of stations.	Average.		Departure.	
		Current month.	Percentage of normal.	Current month.	Accumulated since Jan. 1.
		Inches.		*Inches.*	*Inches.*
New England	11	2.19	61	− 1.4	− 2.1
Middle Atlantic	15	2.57	60	− 1.7	− 2.0
South Atlantic	11	5.13	85	− 0.9	− 6.4
Florida Peninsula*	8	6.06	90	− 0.7	− 5.6
East Gulf	11	6.89	130	+ 1.6	− 3.2
West Gulf	10	2.62	81	− 0.6	− 4.4
Ohio Valley and Tennessee	13	5.09	124	+ 1.0	+ 0.4
Lower Lakes	10	2.84	83	− 0.6	− 1.4
Upper Lakes	12	2.37	74	− 0.7	− 5.1
North Dakota*	9	1.16	42	− 1.6	− 5.6
Upper Mississippi Valley	15	2.58	72	− 1.0	− 6.4
Missouri Valley	12	2.76	72	− 1.1	− 5.8
Northern slope	9	1.42	88	− 0.2	− 2.4
Middle slope	6	1.83	60	− 1.2	− 5.6
Southern slope*	7	1.91	63	− 1.1	− 7.8
Southern Plateau*	10	1.26	96	− 0.1	− 1.8
Middle Plateau*	11	0.90	180	+ 0.4	− 3.8
Northern Plateau*	10	0.24	38	− 0.4	− 2.4
North Pacific	7	0.04	5	− 0.7	− 2.4
Middle Pacific	7	T.	100	0.0	− 5.8
South Pacific	4	0.01	100	0.0	− 4.9

*Regular Weather Bureau and selected cooperative stations.

Average cloudiness and departures from the normal.

Districts.	Average.	Departure from the normal.	Districts.	Average.	Departure from the normal.
New England	4.7	− 0.4	Missouri Valley	3.8	− 0.4
Middle Atlantic	4.6	− 0.3	Northern slope	4.0	+ 0.3
South Atlantic	5.8	+ 0.6	Middle slope	4.0	− 0.1
Florida Peninsula	5.3	+ 0.3	Southern slope	3.0	− 1.5
East Gulf	6.3	+ 0.9	Southern Plateau	3.3	0.0
West Gulf	3.5	− 0.6	Middle Plateau	4.0	+ 0.9
Ohio Valley and Tennessee	5.7	+ 1.1	Northern Plateau	2.8	+ 0.1
Lower Lakes	4.0	− 0.5	North Pacific	4.1	− 0.5
Upper Lakes	4.3	− 0.3	Middle Pacific	4.8	+ 1.3
North Dakota	5.3	− 1.1	South Pacific	2.9	+ 0.1
Upper Mississippi Valley	4.4	+ 0.1			

Average relative humidity and departures from the normal.

Districts.	Average.	Departure from the normal.	Districts.	Average.	Departure from the normal.
New England	75	− 5	Missouri Valley	62	− 4
Middle Atlantic	72	− 2	Northern slope	50	− 2
South Atlantic	82	+ 2	Middle slope	54	− 6
Florida Peninsula	80	0	Southern slope	50	− 9
East Gulf	82	+ 4	Southern Plateau	43	+ 5
West Gulf	72	− 2	Middle Plateau	40	+ 8
Ohio Valley and Tenenssee	76	+ 7	Northern Plateau	34	− 4
Lower Lakes	69	0	North Pacific	73	+ 8
Upper Lakes	67	− 5	Middle Pacific	60	− 6
North Dakota	58	− 8	South Pacific	64	0
Upper Mississippi Valley	66	− 2			

RIVERS AND FLOODS.

By Prof. H. C. FRANKENFIELD, in charge River and Flood Division.

It is to be expected that a season of marked deficiency in precipitation will be followed by low stages of water in the rivers affected, but in the upper Mississippi River, during the month of July, good stages can reasonably be assured from the ebb of the spring rise, supplemented by summer showers during the preceding month. During the present month, however, owing to deficient precipitation, the Mississippi River, above the mouth of the Missouri, together with some of the tributaries, was abnormally low, and at a number of places the stages were the lowest of record for the month. At Red Wing, Minn., on the Mississippi River, the stage of −0.6 foot from July 29 to 31, inclusive, was the lowest recorded stage for any month, and a low-water record of −0.8 foot was established also at Chippewa Falls, Wis., on the Wisconsin River, on July 24. Low water prevailed also at other places in the country, notably in the Snake River in Idaho and its tributaries, and in portions of the Arkansas River, between Wichita, Kans., and Tulsa, Okla. The low water in Idaho seriously interfered with placer mining and irrigation interests. That in the Arkansas River was not of consequence, except that as a matter of record it should be stated that the stages of −3.8 feet from July 26 to 31, inclusive, at Wichita, and of 1 foot from July 29 to 31, inclusive, at Tulsa, were the lowest of record.

The stages in the Missouri River, in the Mississippi below the mouth of the Missouri, and in the Ohio were seasonable.

The rivers, as a rule, were free from floods, but there were torrential rains in several localities that caused the smaller tributaries to overflow with great resulting damage, much greater, in fact, than frequently follows a severe flood in a large river, as they occurred at the height of the crop season. During the night of July 15 one of these cloudbursts occurred over northwestern Kentucky, southwestern Indiana, and southeastern Illinois, and it is reported that crops, consisting principally of tobacco in Kentucky, and property, to the combined value of at least $2,000,000 were destroyed. The White and lower Wabash rivers rose rapidly and flood stages were reached in the west fork of the White River from July 17 to 20, inclusive, but the major portion of the damage fell upon the State of Kentucky.

On July 22 a severe rainstorm visited the mining town of Bisbee in southeastern Arizona, and the torrents from the mountains resulted in the loss of several lives and caused damage to the amount of about $150,000. Another cloudburst on the morning of July 29 caused the waters of Bear Creek to overflow at Hannibal, Mo., with resulting damage of the usual character to the amount of about $75,000, and on the same day rains of a similar character in eastern Colorado did still more damage, mainly to railroads. Large sections of track were completely washed away over the territory bounded by Colorado Springs, Trinidad, Salida, and La Junta, and traffic was necessarily suspended for some time. The greater portion of the water came down the Fountain River to Pueblo.

The continuous rains of the first decade of the month over Georgia, Alabama, and Mississippi were followed by decided rises in the rivers, but not to flood stages, except in the upper Yazoo River. At Swanlake, Miss., this river was above the flood stage of 24 feet from July 19 to 31, inclusive, and crop damage to the amount of about $8,000 was reported. Warnings were issued for several of these rises, and along the Alabama River they were of great benefit as the farmers were enabled to remove their cattle from the lowland pastures to places of safety.

Hydrographs for typical points on several principal rivers are shown on Chart I. The stations selected for charting are Keokuk, St. Louis, Memphis, Vicksburg, and New Orleans, on the Mississippi; Cincinnati and Cairo, on the Ohio; Nashville, on the Cumberland; Johnsonville, on the Tennessee; Kansas City, on the Missouri; Little Rock, on the Arkansas; and Shreveport, on the Red.

SPECIAL PAPERS ON GENERAL METEOROLOGY.

RECENT ADDITIONS TO THE WEATHER BUREAU LIBRARY.

C. FITZHUGH TALMAN, Librarian.

The following have been selected from among the titles of books recently received, as representing those most likely to be useful to Weather Bureau officials in their meteorological work and studies. Anonymous publications are indicated by a ——.

Ångström, A. Knutsson.
Une simple méthode pour déterminer la radiation nocturne, proposée par K[nut] Ångström, publiée par A. Knutsson Ångström. Upsala. 6 p. f°. (Nova acta reg. soc. sci. Upsala. s. 4. v. 2. n:o 8.)

British balneological and climatological society.
Journal of balneology and climatology. v. 13, 1909–10, with indices to the 13 volumes London. 1909–10. xii, 238p. 8°.

Budig [Wilhelm Heinrich] Walter.
Die durch Niederschläge hervorgerufenen Störungen des Luftelektrischen Feldes in Potsdam. Auf Grund 4-jähriger Registrierungen mit besondere Berücksichtigung von Böen. [Berlin.] 33, xviiip. 8°. (Inaug.-Dis.-Berlin.)

Charcot, J[ean]-B[aptiste].
Rapports préliminaires sur les travaux exécutés dans l'antarctique par la mission commandée par J.-B. Charcot de 1908 à 1910. Paris. 1910. ix, 103 p. 4°. (Académie des sciences.)

Dove, Karl, & Frankenhäuser.
Deutsche Klimatik. Grundriss der Lehre von den Luftkuren... unter besonderer Berücksichtigung Deutschlands. Mit Tabellen und 4 Karten. Berlin. 1910. xii, 280p. 8°.

Ebert, H., & Kurz, K.
Registrierungen der luftelektrischen Zerstreuungen in unmittelbarer Nähe des Erdbodens. München. 1909. 68p. 4°. (Abhdlgn. k. bay. Akad. Wiss., math.-phys. Kl., 25. Bd. 2. Abhdl.)

Föyn, N. J.
Das Klima von Bergen. I.—Niederschläge. Bergen. 1910. 59p. 8°. (S. A., Bergens museum aarbok, 1910.)

Grohmann, E.
Hagelfälle und Blitzschläge auf Gebäude innerhalb des Königreichs Sachsen während der Jahre 1886–1905. [2 maps.] Dresden. 1910. 16p. 4°. (S.A. Zeitschr. des k. Sächs. Statist. Landesamts. Jahrg. 1909.)

Hayhurst, Walter, & Pring, John Norman.
The examination of the atmosphere at various altitudes for oxides of nitrogen and ozone. (Reprinted from Chem. soc., trans., 1910, **97**: 868–877.)

Hildebrandsson, H. Hildebrand.
Quelques recherches sur les centres d'action de l'atmosphère. IV. Sur la compensation entre les types des saisons simultanés en différentes régions de la terre. (Suite.) Upsala. 1910. 22p. f°. (Kungla Svenska vetensk. hndlgr. Bd. 45. n:o 11.)

Hildebrandt, A.
Die Luftschiffahrt nach ihrer geschichtlichen und gegenwärtigen Entwicklung. 2. Vermehrte und verbesserte Aufl. München, etc. 1910. viii, 456p. 8°.

Leiter, Herman.
Die Frage der Klimaänderung während geschichtlicher Zeit in Nord-Afrika. 1 Karte, 5 Textfiguren. Wien. 1909. [vi], 143p. 4°. (Abhandl. k. k. Geogr. Gesellsch. Wien. 8. Bd. 1909. N:o 1.)

Müller-Pouillet.
Lehrbuch der Physik und Meteorologie. 10. Aufl. herausgegeben von Leop. Pfaundler. 4. Band. 1. Abth. Braunschweig. 1909. xii, 622 p. 8°.

National antarctic expedition, 1901–1904.
Album of photographs and sketches, with a portfolio of panoramic views. London. 1908. xvi, 303 p. f°.

Quayle, E. T.
On the possibility of forecasting the approximate winter rainfall for northern Victoria. Melbourne. [1910.] 8 p. f°. (Australia. Commonwealth bur. meteorol. Bul. 5.)

von Haimberger, Paul.
Beiträge zur Bestimmung der Strahlenbrechung über der Meeresfläche. Freiberg in Sachsen. 1910. 45p. 4°. (Inaug.-Diss.—Tech. Hochsch. Danzig.)

von Hermann, Charles F.
How farmers may utilize the special warnings of the Weather bureau. Washington. 1910. p.387–397. 8°. (Extr. Yearbook, U. S. Dept. agric., 1909.)

Westman, J.
Beobachtungen über die Sulitälma-Gletscher in Sommer 1908. Stockholm. 1910. 44p. f°. (Sverig. geol. undersök. afhdl. . .in 4°. Ser. C a. n:o 5.)

Wiechert, E. & Zöppritz, K.
Über Erdbebenwellen. I. Theoretisches über die Ausbreitung der Erdbebenwellen. II. Laufzeitkurven. n.p. [1907.] 135p. 8°. (Nachr. k. Gesell. Wiss., Göttingen, Math.-phys. Kl., 1907.)

Zöppritz, Karl, & Geiger, Ludwig.
Über Erdbebenwellen. III. Berechnung von Weg und Geschwindingkeit der Vorläufer. Die Poissonsche Konstante im Erdinnern. n.p. [1909.] 30 p. 8°. (S. A. Nachr. k. Gesell. Wiss., Göttingen, Math., phys. Kl., 1909.)

RECENT PAPERS BEARING ON METEOROLOGY AND SEISMOLOGY.

C. FITZHUGH TALMAN, Librarian.

The subjoined titles have been selected from the contents of the periodicals and serials recently received in the Library of the Weather Bureau. The titles selected are of papers or other communications bearing on meteorology or cognate branches of science. This is not a complete index of the meteorological contents of all the journals from which it has been compiled; it shows only the articles that appear to the compiler likely to be of particular interest in connection with the work of the Weather Bureau. Unsigned articles are indicated by a ——.

American journal of science. New Haven. v. 30. August, 1910.
Bigelow, Frank H. The inversion of temperature amplitudes and departures in the United States. p. 115–127.

American review of reviews. New York. v. 42. August, 1910.
——Facts and fancies concerning thunderstorms. p. 230–231.

Engineering News. New York. v. 64. August 25, 1910.
Robinson, H. F. Report of the flood on the Zuni River, September 6, 1909.

India. Meteorological department. Memoirs. Simla. v. 21, pt. 2.
Walker, Gilbert T. Correlation in seasonal variations of weather p. 24–45.

Japan. Central meteorological observatory. Bulletin. Tokio. 1910.
Okada, T., & Yoshida, Y. Pyrheliometric observations on the summit and at the base of Mount Fuji. p. 1–8. (no. 3.)
Fujihara, S. Note on the problem of ice-formation. p. 9–18. (no. 3.)
Okada, T. Some researches in the centres of action of the atmosphere in the far East. p. 1–12. (no. 4.)
Fujihara, S., & Miyazawa, T. On the linear flow of the heat in snow on the ground. p. 1–19. (no. 4.)
Tsuiji, Y. On the double diurnal variations of the velocity of wind at Nagasaki. p. 1–21. (no. 4.)

Nature. London. v. 84. August 11, 1910.
Lockyer, William J. S. Does the Indian climate change? p. 178. [Review of memoir by Walker.]

Popular science monthly. New York. v. 77. August, 1910.
Udden, J. A. Observations on the earthquake of May 26, 1909. p. 154–162.

Scientific American. New York. v. 103. August 6, 1910.
——Dew-ponds. p. 100.
——The revival of ozone studies in meteorology. p. 107.

Scottish geographical magazine. Edinburgh. v. 26. August, 1910.
Mossman, R. C. Meteorology in the Weddell quadrant during 1909. p. 407–417.

Symons's meteorological magazine. London. v. 45. August, 1910.
Gooding, H. J. Insurance against wet weather. p. 121–123.
Henkel, F. W. Comets and the weather. p. 128–131.

Aérophile. Paris. 18 année. 1910.
Lorenc, Wladimir, & Lorenc, Victor. Du rôle du vent dans l'aviation. p. 227–229. (15 juillet.)
Tanakadaté, A. Étude photographique du courant aérien produit par les hélices. p. 379–380. 15 août.)

Annales de chimie et de physique. Paris. 8 sér. Tome 20. Août 1910.
Claude, Georges. Sur la composition de l'atmosphère après le passage de la comète de Halley. p. 573–574.

Ciel et terre. Bruxelles. 31 année. Août 1910.
Mascart, Jean. Études dans la zone des alizés. p. 323–334.

Cosmos. Paris. 59 année. 6 août 1910.
Nodon, A. Le rôle de l'électricité en météorologie. p. 159–162.

France. Académie des sciences. Comptes rendus. Paris. Tome 151. 1 août 1910.
Bouty, M. E. Rapport sur un mémoire de M. Schwoerer intitulé "Sur les phénomènes thermiques de l'atmosphère. p. 362–364.

Géographie. Paris. Tome 21. 15 juin 1910.
Maillet, E. Le régime hydrologique du bassin de la Seine et les crues de janvier et février 1910. p. 409–420.

Nature. Paris. 38 année. 6 août 1910.
Coupin, Henri. Les animaux et la météorologie. p. 145–147. [Describes experiments on the effects of weather on caterpillars, beetles, etc., and their ability to forecast weather changes. Illustrated.]

Annalen der Hydrographie und maritimen Meteorologie. Berlin. 38. Jahrgang. August 1910.
Peterson, Johannes. Unperiodische Temperaturschwankungen im Golfstrom und deren Beziehung zu der Luftdruckverteilung. p. 397–417.

Aus dem Archiv der deutschen Seewarte. Hamburg. 33. Jahrgang. 1910.
Kremer, Eduard. Die unperiodischen Schwankungen der Niederschläge und die Hungersnote in Deutsch-Ost-Afrika. p. 1–64. (No. 1.) [Includes collected rainfall data for 39 stations.]
Semmelhack, Wilhelm. Beiträge zur Klimatologie von Nordspanien und Portugal. 1. Teil: Die Niederschlagsverhältnisse. p. 1–82. (No. 2.)

Meteorologische Zeitschrift. Braunschweig. Band 27. Juli 1910.
Maurer, Julius. Einige Ergebnisse aus Schneemessungen in den schweizer Hochalpen und ihre Beziehungen zu den Schwankungen der Firnlinie. p. 289–301.
Trabert, Wilhelm. Der Zusammenhang zwischen Luftdruck- und Temperaturverhältnissen. p. 301–307.
Kerner, Fritz von. Versuch einer indirekten Schätzung des Gesamtniederschlages auf der Nordhalbkugel. p. 307–313.
Riegel, Alexander. Der Benndorfsche Potentialregistrator während des Kometendurchganges am 18. und 19. Mai 1910 zu Kalocsa, Raynald-Observatorium. p. 313–314.
Kesslitz, W[ilhelm] von. Luftelektrische und erdmagnetische Beobachtungen am Hydrographischen Amte in Pola während der Passage des Halleyschen Kometen. p. 316–318.
——Windverhältnisse von Han-kow, China. p. 331.

Mitteilungen aus den deutschen Schutzgebieten. Berlin. 23. Band. 1910.
Sieglerschmidt, R. Das Klima der Nieder-Guinea-Küste und ihres Hinterlandes. p. 1-43. (1. Heft.)
——Ergebnisse der Regenmessungen in Togo im Jahre 1909. p. 68–71.

Petermanns Mitteilungen. Gotha. 56. Jahrgang. 1910.
Hedin, Sven von. Die wissenschaftliche Ergebnisse meiner Reise in Tibet 1906–08. III. Meteorologische Beobachtungen. p. 5. [Preliminary account of the climate by Nils Ekholm.]
Rudolph, Emil. Einrichtung eines Erdbebenbeobachtungsdienstes in Chile und Argentina. p. 14–15.
Dove, [Karl]. La città e il clima di Addis Abeba. p. 45–46. [Abstract of memoir by L. de Castro.]

Prometheus. Berlin. Jahrgang 21. August 17, 1910.
Eckhardt, Wilh. R. Eigentümlichkeiten der geologischen Klimate, insbesondere des Paläozoikums. p. 740–744.

CONDENSED CLIMATOLOGICAL SUMMARY.

In the following table are given, for the various sections of the Climatological Service of the Weather Bureau, the average temperature and rainfall, the stations reporting the highest and lowest temperatures with dates of occurrence, the stations reporting the greatest and least monthly precipitation, and other data, as indicated by the several headings.

The mean temperatures for each section, the highest and lowest temperatures, the average precipitation, and the greatest and least monthly amounts are found by using all trustworthy records available.

The mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observations. Of course the number of such records is smaller than the total number of stations.

Temperature and precipitation by sections, July, 1910.

Station.	Temperature—in degrees Fahrenheit.							Precipitation—in inches and hundredths.					
	Section average.	Departure from the normal.	Monthly extremes.					Section average.	Departure from the normal.	Greatest monthly.		Least monthly.	
			Station.	Highest.	Date.	Station.	Lowest.	Date.			Station.	Amount.	Station.	Amount.
Alabama	78.6	− 1.5	2 stations	100	15†	Riverton	55	19	7.18	+ 2.44	Daphne	12.10	Cedar Bluff	3.12
Arizona	83.2	− 0.3	Mohawk Summit	123	7	Flagstaff	36	1	2.05	+ 0.34	Bisbee	5.72	Mohawk Summit	T.
Arkansas	79.4	− 0.7	Ozark	105	29	Bergman	41	18	5.46	+ 1.50	Brinkley	12.44	Prescott	0.62
California	75.5	− 0.1	Mammoth Tank	119	20	Macdoel	22	3	0.10	+ 0.02	Campo	3.44	Many stations	0.00
Colorado	67.3	+ 1.8	Hoehne	110	8†	Fraser	27	7†	1.91	− 0.24	Calhan	5.71	Montrose	0.10
Florida	80.4	− 1.0	Molino	102	30	2 stations	60	1†	7.56	+ 0.54	Plant City	15.62	Fernandina	2.17
Georgia	78.9	− 1.3	Blakely	104	15	Lafayette	53	22	5.68	+ 0.22	Valona	14.05	Millen	2.04
Hawaii (June)	70.8		2 stations	89	4†	Humuula, Hawaii	37	8	6.89		Hakalau (Mauka)	29.87	Waiopae Ranch	0.00
Idaho	71.0	+ 2.2	2 stations	110	13†	Pierson	25	23	0.37	− 0.34	Edie	1.77	2 stations	0.00
Illinois	76.3	+ 0.8	Sycamore	104	1	Lanark	40	19	4.14	+ 0.31	Palestine	11.11	Ottawa	0.67
Indiana	75.2	− 0.1	Logansport	102	1	Markle	41	19	5.66	+ 2.26	Rome	15.91	Rochester	1.43
Iowa	74.5	+ 1.1	Ridgeway	108	16	Woodburn	43	19	1.86	− 2.58	Keosauqua	5.69	New Hampton	0.12
Kansas	79.5	+ 2.2	2 stations	111	26†	Jewell	44	4	2.01	− 1.95	Agricultural College	5.83	Natoma	0.21
Kentucky	76.2	− 0.6	Earlington	96	25	2 stations	52	20	8.63	+ 4.48	Beaver Dam	13.24	Scott	3.79
Louisiana	81.2	− 0.4	Plain Dealing	101	30	St. Francisville	56	24	7.85	+ 1.78	Houma	15.81	Plain Dealing	1.12
Maryland and Delaware	76.4	+ 0.4	Towson, Md	98	25	Oakland, Md	39	20	2.59	− 1.91	Seaford, Del	6.88	Lake Montebello, Md	0.63
Michigan	70.0	+ 1.6	Harrisville	103	2	Thomaston	28	18	2.21	− 1.02	Hillsdale	5.19	St. Joseph	T.
Minnesota	70.6	+ 2.0	Grand Meadow	102	16	Floodwood	32	18	1.94	− 1.67	Pokegama Falls	5.76	Beardsley	0.57
Mississippi	79.7	− 1.3	Duck Hill	100	30	Booneville	56	20	7.12	+ 1.61	Charleston	12.61	Edinburg	1.40
Missouri	76.8	− 0.1	Grant City	109	27	Goodland	46	20	6.70	+ 2.57	Olden	12.69	Conception	0.20
Montana	68.3	+ 2.4	Springbrook	112	14	Pleasant Valley	24	26	0.85	− 0.60	Lewistown	2.20	Huntley	0.00
Nebraska	75.0	+ 1.2	2 stations	110	27	Imperial	37	5	1.81	− 1.83	Atkinson	4.62	Culbertson	0.24
Nevada	72.9	+ 2.0	Jean	110	11	2 stations	28	5	0.65	+ 0.30	Eureka	2.62	Willow Point	0.00
New England*	70.6	+ 1.6	Durham, N. H	99	10	Patten, Me	38	5	2.39	− 1.65	Presque Isle, Me	6.38	2 stations	0.91
New Jersey	75.3	+ 1.4	2 stations	99	9	2 stations	42	7	1.36	− 3.47	Canton	5.33	Flemington	0.22
New Mexico	74.2	+ 1.6	San Rafael	109	20	Hopewell	31	2	1.62	− 0.76	Aspen Grove Ranch	5.63	Artesia	0.03
New York	70.1	+ 1.0	2 stations	99	9†	Indian Lake	36	18	2.54	− 1.76	Morehouseville	6.40	New York	0.23
North Carolina	77.2	+ 0.2	Ramseur	99	11	Banners Elk	46	21	5.07	− 1.08	Murphy	11.28	Hatteras	1.44
North Dakota	70.6	+ 2.7	Medora	114	15	Marstonmoor	33	12	1.60	− 1.18	Lamoine	3.80	2 stations	T.
Ohio	73.8	+ 0.3	3 stations	98	1†	Garrettsville	43	20	3.17	− 0.97	Green	9.51	Cleveland (1)	0.94
Oklahoma	83.0	+ 2.7	Chickaska	116	30	Dacoma	51	19	2.15	− 1.17	Muskogee	8.16	Hennessey	T.
Oregon	66.5	+ 0.6	Vale	109	20	Lakeview	20	4	0.17	− 0.46	Grindstone	1.20	29 stations	0.00
Pennsylvania	72.8	+ 0.7	Lock Haven	99	24†	2 stations	41	19†	2.42	− 1.83	Aleppo	5.15	Bethlehem	0.45
Porto Rico	78.5	− 0.6	Humacao	93	21	Cidra	52	12	5.25	− 2.00	Jayuya	11.58	Hacienda Potala	0.22
South Carolina	79.4	− 0.5	Allendale	1.02	29	2 stations	58	20	5.83	+ 0.09	Walterboro	10.46	Pelzer	2.98
South Dakota	73.4	+ 1.5	Cottonwood	116	14	Daviston	32	12	1.99	− 0.61	Rapid City	5.76	2 stations	0.15
Tennessee	77.0	− 0.6	2 stations	98	17†	Mountain City	49	19	6.53	+ 1.84	Walling	10.08	Memphis	2.59
Texas	84.8	+ 2.3	Tilden	119	2	2 stations	55	1†	1.37	− 1.75	Beaumont	10.29	6 stations	0.00
Utah	73.2	+ 1.2	2 stations	110	20†	Henefer	32	6	1.07	+ 0.50	Panguitch Lake	3.41	2 stations	T.
Virginia	74.4	− 0.7	Lincoln	102	26†	Burkes Garden	42	19	5.14	+ 0.54	Charlottesville	7.95	Clarksville	1.93
Washington	66.7	− 0.1	Wahluke	107	16	Bumping Lake	30	17	0.13	− 0.60	Granite Falls	1.06	26 stations	0.00
West Virginia	73.8	+ 0.5	4 stations	98	1†	Bayard	41	20	4.92	+ 0.22	Logan	13.16	Moorefield	0.54
Wisconsin	71.5	+ 2.5	Muscoda	104	15	Long Lake	30	18	1.88	− 2.18	Hatfield	1.75	Racine	0.45
Wyoming	65.2	+ 2.6	Ft. Laramie	104	15†	Fox Park	22	6	1.13	− 0.08	Upton	3.59	2 stations	0.14

*Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut. †Other dates also.

TABLE 1.—*Climatological data for U. S. Weather Bureau stations, July, 1910.*

Stations.	Elevation of instruments.			Pressure, in inches.			Temperature of the air, in degrees Fahrenheit.											Mean wet thermometer.	Mean temperature of the dew-point.	Mean relative humidity, per cent.	Precipitation, in inches.			Wind.					Clear days.	Partly cloudy days.	Cloudy days.	Average cloudiness during daylight, tenths.	Total snowfall.
	Barometer above sea level, feet.	Thermometers above ground.	Anemometer above ground.	Actual, reduced to mean of 24 hours.	Sea level, reduced to mean of 24 hrs.	Departure from normal.	Mean max. + mean min. ÷ 2.	Departure from normal.	Maximum.	Date.	Mean maximum.	Minimum.	Date.	Mean minimum.	Greatest daily range.						Total.	Departure from normal.	Days with .01, or more.	Total movement, miles.	Prevailing direction.	Maximum velocity. Miles per hour.	Maximum velocity. Direction.	Maximum velocity. Date.					
New England.																																
Eastport	76	67	85	29.77	29.85	− .08	70.4	+ 1.6										76	2.19	− 1.4											4.7	
Greenville	1,070	6		28.72	29.86		61.4	+ 1.6	86	11	69	49	17	53	32	57	55	82	1.92	− 1.5	9	5,980	s.	40	e.	4	4	16	11	6.2	
Portland, Me.	103	81	117	29.75	29.87	− .08	64.8		92	10	76	44	5	54	35				4.18		14											
Concord	288	70	79	29.57	29.87	− .09	69.6	+ 1.6	91	11	79	54	17	60	29	63	59	72	1.64	− 1.6	7	6,043	s.	32	nw.	4	12	13	6	4.5	
Burlington	404	11	48	29.44	29.86	− .08	70.6	+ 1.5	96	10	83	48	18	58	36				0.91	− 2.9	7	3,472	nw.	25	nw.	4	13	14	4	4.5	
Northfield	876	16	70	28.97	29.89	− .05	69.2	+ 1.0	92	10	80	48	18	58	31				3.06	− 0.7	13	5,677	s.	31	s.	13	4	23	4	5.2	
Boston	125	115	188	29.75	29.88	− .08	65.6	− 0.6	91	10	79	42	18	53	40	62	60	80	1.96	− 1.7	17	4,799	s.	48	sw.	10	5	22	4	5.4	
Nantucket	12	14	90	29.88	29.89	− .09	74.9	+ 3.6	94	11	83	58	20	67	26	66	61	65	1.15	− 2.2	6	6,807	sw.	27	n.	4	12	6	13	5.4	
Block Island	26	11	46	29.87	29.90	− .07	69.4	+ 1.9	83	27	76	58	6	62	21	65	63	86	4.18	+ 1.5	7	9,922	sw.	41	sw.	25	14	16	1	3.8	
Narragansett		9					71.0	+ 2.9	85	11	77	59	7	64	20	66	64	85	1.73	− 1.6	5	9,368	sw.	40	n.	28	16	14	1	3.9	
Providence	160	141	165	29.73	29.90	− .07	70.5	+ 0.6	91	11	79	51	5	62	28				2.72		6		sw.				27	3	1			
Hartford	159	122	140	29.72	29.89	− .08	73.6	+ 0.2	92	9	83	55	7	64	28	66	62	71	2.86	− 0.7	8	6,606	nw.	34	nw.	13	15	12	4	4.1	
New Haven	106	116	155	29.78	29.89	− .08	74.2	+ 2.6	93	10	85	55	19	64	28	65	61	67	2.47	− 1.6	6	5,206	s.	32	nw.	30	9	13	9	5.2	
Mid. Atlantic States.							74.1	+ 2.2	92	9	83	56	7	65	27	66	62	68	2.26	− 2.5	4	5,603	s.	30	sw.	25	15	14	2	3.7	
Albany	97	102	115	29.78	29.88	− .08	75.4	+ 0.9										72	2.57	− 1.7											4.6	
Binghamton	871	78	88	29.01	29.92	− .05	74.1	+ 2.1	96	10	85	55	5	63	31	65	60	64	1.28	− 2.6	9	5,063	s.	28	nw.	25	9	20	2	4.3	
New York	314	108	350	29.57	29.90	− .08	70.1	+ 0.2	91	9	82	47	29	59	37				2.08	− 1.5	11	3,533	e.	24	sw.	25	10	17	4	4.4	
Harrisburg	374	94	104	29.53	29.92	− .06	77.8	+ 4.3	94	24	86	63	6	70	23	67	62	63	0.23	− 4.3	3	6,490	sw.	31	w.	26	11	14	6	4.8	
Philadelphia	117	116	184	29.80	29.92	− .06	76.5	+ 2.0	93	9	86	60	20	67	26	66	61	63	1.41	− 2.5	6	3,968	w.	26	nw.	28	15	9	7	4.4	
Scranton	805	111	119	29.09	29.93	− .05	78.2	+ 2.4	93	10	86	64	20	71	20	69	64	67	1.84	− 2.5	5	6,369	sw.	25	sw.	25	8	13	10	4.9	
Atlantic City	52	37	48	29.87	29.92	− .06	72.8	+ 1.0	93	9	84	53	29	62	33	65	61	67	1.09	− 2.7	7	4,630	sw.	38	sw.	25	8	16	7	5.1	
Cape May	17	9	56	29.93	29.95	− .03	74.4	+ 1.9	92	26	81	57	6	68	20	69	66	79	1.35	− 2.4	6	5,323	sw.	19	nw.	30	13	9	9	5.0	
Baltimore	123	100	113	29.80	29.92	− .06	74.0	+ 0.6	93	26	81	57	6	67	21	69	67	84	1.31	− 2.5	11	5,163	sw.	36	se.	16	12	15	4	4.5	
Washington	112	62	85	29.81	29.92	− .08	78.9	+ 1.6	95	10	87	61	6	70	23	69	64	63	0.95	− 3.9	7	4,652	s.	24	nw.	10	14	12	5	3.8	
Cape Henry	18	9	58				77.6	+ 0.8	95	9	87	57	6	68	27	70	67	74	3.73	− 0.9	9	3,704	w.	30	w.	27	19	8	4	3.6	
Lynchburg	681	83	88	29.24	29.96	− .05	77.2	− 0.1	94	9	87	57	21	68	30	71	69	80	4.19	+ 0.2	12	2,600	sw.	20	nw.	16	6	21	4	5.0	
Mount Weather	1,725	10	54	28.17	29.92	− .07	72.4	+ 1.0	88	1	80	56	20	65	22	65	61	73	3.28	− 1.4	12	9,320	w.	42	sw.	12	13	11	7	4.5	
Norfolk	91	102	111	29.86	29.96	− .04	78.4	0.0	93	11	86	64	21	71	22	72	70	79	6.16	+ 0.4	8	6,961	sw.	38	w.	26	12	11	8	4.8	
Richmond	144	189	197	29.80	29.95	− .06	77.8	− 1.4	92	12	87	58	21	68	25				6.40	+ 2.0	9	4,783	sw.	30	sw.	7	7	15	9	5.3	
Wytheville	2,293	40	47	27.66	29.96	− .05	71.4	− 1.2	88	1	81	49	19	62	28	66	65	86	3.24	− 1.2	18	2,292	w.	17	w.	10	15	12	4	4.2	
S. Atlantic States.							73.6	− 0.5										82	5.13	− 0.9											5.6	
Asheville	4,255	53	75	27.72	30.00	− .02	72.0	+ 0.3	86	16	81	53	20	63	28	66	64	86	4.65	− 0.2	22	4,067	s.	33	nw.	28	2	18	11	6.5	
Charlotte	773	68	76	29.18	30.00	− .02	77.6	− 1.1	93	11	87	60	20	69	24	70	68	80	3.12	− 2.4	13	5,061	sw.	46	nw.	28	5	8	18	6.7	
Hatteras	11	12	47	29.98	29.99	− .02	78.2	− 0.4	86	12	83	66	19	73	15	74	73	88	1.44	− 4.7	10	12,181	sw.	31	sw.	26	14	13	4	4.3	
Manteo	12	12	46				79.1		92	13	86	64	6	72					7.68	+ 1.6	10		sw.				13	11	7			
Raleigh	376	103	110	29.58	29.97	− .05	78.3	− 0.2	94	28	87	60	20	70	24	71	68	79	5.65	− 0.5	12	6,053	sw.	30	nw.	13	8	12	11	5.6	
Wilmington	78	81	91	29.92	30.00	− .01	79.0	+ 0.3	92	16	86	63	20	72	20	73	72	85	6.99	0.0	17	6,646	sw.	25	sw.	17	5	18	8	5.7	
Charleston	48	14	92	29.96	30.01	− .02	80.8	− 0.5	92	28	87	66	20	74	18	74	72	80	4.68	− 2.6	13	7,623	sw.	37	ne.	29	9	15	7	5.3	
Columbia, S. C.	351	41	57	29.62	30.00	− .02	79.1	− 2.0	94	10	88	60	21	70	22	72	70	79	5.25	− 0.8	15	4,827	sw.	26	sw.	3	1	18	12	6.7	
Augusta	180	89	97	29.81	30.00	− .02	79.4	− 1.1	95	31	88	62	20	71	21	72	70	80	4.71	− 0.6	17	4,060	sw.	35	se.	3	2	18	11	6.4	
Savannah	65	150	194	29.96	30.03	.00	80.4	− 0.1	97	29	89	64	21	72	25	74	72	83	6.08	− 0.1	13	8,084	sw.	45	w.	6	6	16	9	5.8	
Jacksonville	43	96	129	30.00	30.05	+ .02	81.0	+ 0.1	95	29	89	69	20	73	20	74	72	83	6.13	− 0.1	15	6,929	sw.	38	sw.	17	9	15	7	5.4	
Florida Peninsula.							81.1	− 0.5										80	5.76	0.0											5.3	
Jupiter	28	10	46	30.02	30.05	+ .02	80.2	− 0.8	89	19	87	67	28	74	19	75	74	80	4.99	− 0.4	11	6,540	se.	33	w.	28	11	20	0	4.6	
Key West	22	10	53	30.01	30.03	.00	82.8	− 0.9	90	31	88	71	19	78	18	76	73	74	2.57	− 1.0	12	6,185	e.	29	nw.	19	4	21	6	5.6	
Tampa	35	79	96	30.02	30.05	+ .01	80.3	+ 0.3	93	6	88	70	6	72	23	75	74	87	9.73	+ 1.3	21	4,611	ne.	36	se.	7	5	19	7	5.7	
East Gulf States.							79.0	− 1.3										82	6.89	+ 1.6											6.3	
Atlanta	1,174	190	216	28.80	30.02	.00	76.6	− 1.0	92	31	84	62	20	69	21	70	68	79	3.25	− 1.5	12	6,764	w.	34	sw.	23	3	14	14	6.6	
Macon	370	78	87	29.62	30.01	− .01	78.8	− 0.9	93	29	87	63	20	70	21				3.94	− 0.7	13	4,081	sw.	37	sw.	3	5	13	13	6.4	
Thomasville	273	8	57	29.74	30.03	.00	80.4	− 1.4	98	29	90	66	21	70	26	74	72	86	4.71	− 0.6	19	3,434	s.	27	sw.	31	7	17	7	5.0	
Pensacola	56	140	183	29.96	30.02	+ .01	79.6	− 1.8	94	30	85	69	17	74	18				7.98	+ 0.7	17	9,130	s.	42	s.	2	3	18	10	6.2	
Anniston	741	9	57	29.25	30.03	+ .01	77.7	− 0.2	91	28	87	58	21	69	26				4.15	− 0.6	13	3,405	s.	29	w.	3	1	10	20	8.0	
Birmingham	700	11	48	29.27	30.02	+ .01	77.5	− 4.0	90	29	86	63	21	70	21	71	69	84	10.80	+ 6.1	17	4,322	s.	30	sw.	4	1	15	15	7.2	
Mobile	57	98	106	29.95	30.01	.00	80.2	− 0.3	95	29	87	68	16	73	22	74	73	82	11.70	+ 4.7	17	5,061	s.	26	se.	1	0	24	7	6.0	
Montgomery	223	100	112	29.77	30.01	− .01	79.2	− 1.8	94	15	88	65	21	71	20	73	71	82	10.27	+ 5.6	15	4,351	sw.	35	sw.	3	6	19	6	5.8	
Meridian	375	84	93	29.60	29.98	− .04	78.6	− 1.4	92	30	87	65	21	70	23	73	71	84	7.34	+ 2.8	21	3,600	sw.	27	sw.	10	2	19	10	6.8	
Vicksburg	247	62	74	29.71	29.98	− .02	79.5	− 0.9	94	30	88	67	20	72	21	73	71	81	5.27	+ 0.8	10	4,221	s.	21	sw.	6	1	20	10	6.6	
New Orleans	51	90	121	29.95	30.00	.00	81.2	− 0.1	95	29	88	68	19	74	18	75	73	79	6.40	− 0.1	16	5,020	s.	24	sw.	3	5	25	1	5.0	
West Gulf States.							81.8	0.0										72	2.62	− 0.6											3.5	
Shreveport	249	77	84	29.69	29.95	− .03	81.8	− 0.3	96	29	91	65	20	73	22	73	70	75	1.44	− 2.3	6	3,988	s.	24	ne.	7	16	12	3	3.8	
Bentonville	1,303	11	44	28.59	29.93	− .04	76.5	− 2.0	96	29	86	56	19	67	26				7.54	+ 3.2	9	3,197	s.	18	s.	9	19	7	5	3.7	
Fort Smith	457	79	94	29.45	29.91	− .06	81.5	+ 0.5	103	29	92	63	20	71	27	72	68	68	2.71	− 1.1	10	4,392	e.	40	sw.	8	14	12	5	4.4	
Little Rock	357	139	147	29.58	29.94	− .05	79.1	− 1.5	94	29	87	65	19	71	22	73	71	81	4.73	+ 0.7	13	5,699	sw.	36	w.	16	7	17	7	5.3	
Brownsville	57	4					83.8		98	1	93	71	13	75	23				0.48		2		s.									
Corpus Christi	20	69	77	29.93	29.95	− .01	82.3	− 0.4	94	1	88	73	2	77	20	76	75	82	0.16	− 1.5	2	12,544	se.	44	se.	23	20	9	2	2.8	
Fort Worth	670	106	114	29.18	29.88	− .08	85.0	+ 1.3	105	17	96	66	20	74	28	70	64	56	0.14	− 2.9	1	7,945	s.	30	nw.	7	13	18	0	3.5	
Galveston	54	106	112	29.93	29.99	+ .01	81.7	− 1.3	89	31	86	66	19	77	18	76	74	78	6.19	+ 2.2	11	7,839	se.	40	nw.	4	22	8	1	3.1	
Houston							82.1		95	31	91	66	3	74	23				4.49		11	5,526	s.	28	w.	1	17	11	3	3.7	
Palestine	510	73	79	29.42	29.94	− .03	81.6	+ 0.1	96	30	91	65	20	72	24	72	69	73	1.75	− 1.2	6	5,906	s.	30	sw.	3	21	10	0	3.4	
San Antonio	701	80	91	29.21	29.92	− .03	84.8	+ 2.4	101	18	96	68	5	73	28	72	67	65	1.37	− 0.8	5	4,837	se.	32	ne.	2	19	12	0	3.1	
Taylor	583	55	63	29.34	29.95	− .01	84.2	+ 1.5	102	18	96	68	5	73	32				0.17	− 2.4	1	7,277	s.	28	n.	18	25	6	0	2.2	
Ohio Val. and Tenn.							76.2	− 0.6										76	5.09	+ 1.0											5.7	
Chattanooga	762	189	213	29.21	30.01	− .01	77.2	− 0.6	91	11	85	62	22	70	25	70	68	80	4.06	+ 0.2	20	5,245	sw.	36	s.	9	4	11	16	6.8	
Knoxville	996	93	100	28.95	29.98	− .04	76.6	+ 0.4	90	11	85	61	20	68	23	70	68	82	5.09	+ 0.9	15	3,712	sw.	25	sw.	16	5	19	7	5.9	
Memphis	399	76	97	29.56	29.97	− .03	79.0	− 1.7	92	29	86	62	20	72	22	73	70	79	2.59	− 0.9	11	6,080	sw.	32	nw.	10	6	11	14	6.4	
Nashville	546	168	191	29.40	29.97	− .04	78.0	− 1.4	91	11	86	64	19	70	23	71	69	78	4.45	+ 0.1	16	5,851	s.	42	n.	17	10	10	11	5.5	
Lexington	989	75	102	28.92	29.96	− .05	74.8	− 1.8	89	1	82	56	19	67	23				7.66	+ 3.2	19	5,776	sw.	35	nw.	17	6	7	18	6.7	
Louisville	525	111	132	29.39	29.97	− .03	77.8	− 0.8	93	1	86	59	19	69	26	70	67	74	10.21	+ 6.5	17	4,936	sw.	42	w.	12	9	11	11	5.4	
Evansville	431	72	82	29.45	29.91	− .09	77.8	− 1.5	92	25	86	61	19	70	25	71	69	79	10.32	+ 6.5	18	4,816	s.	46	s.	11	6	21	4	5.3	
Indianapolis	822	154	164	29.09	29.96	− .03	75.3	− 0.9	94	1	83	57	18	67	23	68	64	73	7.52	+ 3.4	12	5,790	sw.	31	sw.	24	9	12	10	5.5	
Cincinnati	628	152	160	29.29	29.95	− .05	76.6	− 1.1	93	1	85	58	19	68	25	69	66	72	3.62	+ 0.1	11	4,170	sw.	29	w.	12	7	10	14	6.3	
Columbus	824	173	222	29.09	29.95	− .05	75.2	− 0.1	94	1	85	55	19	66	27	67	63	70	2.40	− 1.2	8	6,625	s.	37	n.	27	10	12	9	5.4	
Pittsburg	842	353	410	29.06	29.94	− .06	74.9	+ 0.3	91	1	84	57	20	66	25	66	61	66	1.26	− 3.2	9	7,385	sw.	43	n.	7	12	17	2	4.1	
Parkersburg	638	77	84	29.32	29.97	− .04	75.7	+ 0.1	97	1	85	54	20	66	33	69	67	78	2.98	− 1.7	13	3,325	s.	29	w.	12	9	13	5	5.6	
Elkins	1,940	41	50	27.98	29.96	− .05	71.9	+ 1.4	91	1	83	48	20	61	34	65	63	82	4.07	− 0.6	15	2,233	w.	24	w.	12	5	16	10	5.7	
Lower Lake Region.								72.1	+ 0.6									69	2.34	− 0.6											4.0	
Buffalo	767	178	206	29.10	29.92	− .05	70.1	− 0.1	88	6	77	56	17	63	27	65	62	77	5.33	+ 1.9	8	8,578	sw.	44	w.	24	13	8	10	5.4	
Canton	448	10	71	29.42	29.88		69.4	− 1.1	91	9	81	48	19	58	35				1.94	− 1.3	14	6,742	sw.	32	w.	21	14	14	3	4.3	
Oswego	335	76	91	29.53	29.89	− .07	70.1	+ 0.5	93	9	78	55	5	62	29	63	60	72	3.41	+ 0.2	10	5,977	s.	34	se.	10	19	6	6	3.2	
Rochester	523	86	102	29.36	29.92	− .05	72.0	+ 1.6	94	9	82	54	5	62	33	63	58	67	3.43	+ 0.3	10	5,022	w.	27	w.	10	17	9	5	3.4	
Syracuse	597	97	113	29.28	29.91	− .06	71.3	+ 0.5	92	9	80	54	17	62	28				2.96	− 0.7	11	7,105	s.	34	sw.	24	8	14	9	5.6	
Erie	714	92	102	29.17	29.92	− .06	71.8	0.0	91	24	79	56	19	64	26	64	60	66	3.82	+ 0.6	10	6,469	w.	28	sw.	24	13	16	2	3.6	
Cleveland	762	190	201	29.13	29.93	− .06	72.4	− 0.1	90	24	80	56	20	65	23	66	62	71	0.94	− 2.6	9	8,453	n.	54	n.	27	17	12	2	3.8	
Sandusky	629	62	70	29.26	29.93	− .06	74.8	+ 1.2	94	9	83	58	20	67	23				1.76	− 2.0	10	5,541	sw.	34	n.	26	18	8	5	3.0	
Toledo	628	207	246	29.27	29.94	− .05	74.8	+ 1.1	95	1	84	55	19	65	25	65	60	64	3.29	0.0	8	9,449	sw.	46	n.	26	21	8	2	2.5	
Detroit	730	218	258	29.16	29.93	− .05	73.9	+ 1.9	96	1	83	54	19	64	24	64	59	64	1.48	− 2.0	6	9,331	s.	60	w.	24	11	15	5	4.7	

TABLE 1.—*Climatological data for U. S. Weather Bureau stations, July, 1910*—Continued.

Stations.	Elevation of instruments.			Pressure, in inches			Temperature of the air, in degrees Fahrenheit.								Mean wet thermometer.	Mean temperature of the dew-point.	Mean relative humidity, per cent.	Precipitation, in inches.			Wind.				Clear days.	Partly cloudy days.	Cloudy days.	Average cloudiness during daylight, tenths.	Total snowfall.
	Barometer above sea level, feet.	Thermometers above ground.	Anemometer above ground.	Actual, reduced to mean of 24 hours.	Sea level, reduced to mean of 24 hrs.	Departure from normal.	Mean max. + mean min. ÷ 2.	Departure from normal.	Maximum.	Date.	Mean maximum.	Minimum.	Date.	Mean minimum.	Greatest daily range.			Total.	Departure from normal.	Days with .01, or more.	Total movement, miles.	Prevailing direction.	Maximum velocity. Miles per hour.	Maximum velocity. Direction.	Maximum velocity. Date.				
Upper Lake Region.							**69.8**	**+ 2.0**									**67**	**2.37**	**− 0.7**									**4.3**	
Alpena	609	13	92	29.26	29.92	− .05	68.4	+ 2.6	99	2	79	43	5	57	31	60	56	67	1.70	− 1.4	9	7,509	nw.	38	nw.	24	17	9	5	3.9	
Escanaba	612	40	82	29.26	29.92	− .05	66.6	+ 0.1	100	1	76	49	31	57	34	62	56	70	1.84	− 1.5	8	6,270	s.	31	ne.	16	12	12	7	4.3	
Grand Haven	632	54	92	29.24	29.90	− .08	70.6	+ 0.9	91	2	80	50	18	62	33	64	59	67	1.71	− 0.9	5	7,136	sw.	30	s.	24	18	12	1	3.1	
Grand Rapids	707	127	162	29.18	29.92	− .06	73.7	+ 1.1	99	1	85	52	31	62	34	64	58	62	1.41	− 1.2	7	6,827	sw.	36	s.	9	14	12	5	4.2	
Lansing							71.0		97	1	85	42	19	57	39	63	58	66	1.53		9	3,710	sw.	25	s.	9	14	13	4	3.9	
Houghton	668	66	74	29.19	29.90	− .06	67.1	+ 1.8	92	7	77	46	18	58	31				1.97	− 1.1	9	5,140	w.	32	sw.	7	12	10	9	5.0	
Marquette	734	77	116	29.13	29.92	− .04	66.2	+ 1.3	92	2	75	47	4	58	29	60	56	72	2.49	− 0.6	8	6,923	w.	31	w.	24	7	17	7	5.5	
Port Huron	638	70	120	29.24	29.93	− .05	71.2	+ 2.2	93	2	81	56	31	61	28	63	59	69	5.13	+ 2.4	6	7,145	sw.	50	nw.	24	15	9	7	4.4	
Sault Sainte Marie	614	11	61	29.23	29.92	− .05	64.9	+ 3.0	88	6	76	46	19	54	35	59	55	75	1.69	− 1.1	10	5,456	w.	36	w.	24	11	15	5	4.5	
Chicago	823	140	310	29.07	29.93	− .05	76.0	+ 3.6	97	24	83	62	4	69	22	67	62	67	1.79	− 1.8	8	8,775	sw.	42	w.	12	13	16	2	4.2	
Milwaukee	681	122	139	29.21	29.94	− .03	73.5	+ 3.8	94	9	81	57	19	66	27	64	59	64	2.84	− 0.2	3	7,159	w.	31	n.	9	21	8	2	2.7	
Green Bay	617	49	86	29.24	29.90	− .07	72.4	+ 2.9	100	1	84	48	18	61	33	62	57	62	2.02	− 1.5	5	7,143	sw.	39	w.	24	10	16	5	5.1	
Duluth	1,133	11	47	28.72	29.91	− .04	67.2	+ 1.2	91	1	77	48	12	58	30	58	53	63	3.89	+ 0.2	11	9,426	ne.	40	w.	7	11	15	5	4.7	
North Dakota.							**70.4**	**+ 1.2**									**53**	**1.17**	**− 1.7**									**2.3**	
Moorhead	940	8	57	28.91	29.90	− .04	71.4	+ 2.7	98	15	86	48	12	57	44	62	56	62	0.83	− 2.9	6	5,394	nw.	28	nw.	5	24	5	2	1.9	
Bismarck	1,674	8	57	28.18	29.93	− .00	71.8	+ 1.6	107	15	87	46	26	57	45	61	55	61	0.93	− 1.2	8	7,839	nw.	48	w.	23	20	11	0	3.1	
Devils Lake	1,482	11	44	28.35	29.89	− .04	68.8	+ 0.7	96	14	82	47	9	55	39	58	51	57	1.84	− 1.9	8	7,903	nw.	38	nw.	23	17	12	2	3.6	
Williston	1,872	14	56	27.92	29.85	− .07	69.5	+ 0.1	102	14	84	45	12	55	42	58	50	54	1.09	− 0.9	8	7,208	n.	41	w.	23	13	11	7	4.7	
Upper Miss. Valley.							**75.3**	**+ 0.4**									**68**	**2.52**	**− 1.0**									**4.4**	
Minneapolis	918	102	208				73.8		94	15	85	52	12	63	29				0.74	− 3.1	6	7,912	w.	36	w.	23	17	7			
St. Paul	837	171	179	29.02	29.91	− .04	74.2	+ 2.1	95	25	86	54	12	63	33	63	56	56	0.99	− 2.4	6	4,122	sw.	38	sw.	23	22	8	1	2.4	
La Crosse	714	11	48	29.16	29.91	− .05	74.5	+ 1.9	98	16	88	52	13	61	36				1.03	− 3.0	7	3,280	s.	18	se.	23	18	9	4	3.9	
Madison	974	70	78	28.89	29.90	− .07	74.2	+ 1.8	97	1	85	54	18	63	29	64	57	60	0.81	− 3.2	5	5,731	sw.	31	ne.	16	12	14	5	4.5	
Charles City	1,015	10	49	28.71	29.92	− .04	73.2	− 0.3	98	16	87	48	13	59	36	64	59	63	0.43	− 3.2	6	4,081	nw.	24	sw.	23	10	15	6	4.9	
Davenport	606	71	79	29.27	29.92	− .05	77.0	+ 1.6	97	24	87	56	18	66	29	66	61	62	2.86	− 0.7	5	4,515	sw.	39	nw.	9	19	7	5	3.6	
Des Moines	861	84	101	29.01	29.90	− .06	75.6	+ 0.1	97	16	87	54	13	64	35	65	60	62	0.86	− 3.0	5	4,671	s.	33	s.	25	9	11	11	5.4	
Dubuque	698	100	115	29.20	29.94	− .03	76.0	+ 1.3	98	1	88	54	19	64	30	65	58	59	0.47	− 3.8	5	3,950	nw.	22	n.	17	14	13	4	4.0	
Keokuk	614	64	78	29.27	29.93	− .05	76.4	− 0.6	99	24	86	57	19	66	30	68	64	70	2.74	− 1.3	9	4,039	sw.	32	w.	9	16	11	4	3.6	
Cairo	356	87	93	29.57	29.94	− .06	78.3	− 0.3	94	25	86	63	19	71	24	72	70	81	7.59	+ 4.1	16	5,228	s.	39	n.	17	10	10	11	6.0	
La Salle	536	56	64	29.38	29.94	− .03	76.4	+ 1.1	99	21	88	52	19	65	34				0.79	− 2.5	4	4,873	sw.	33	w.	9	15	7	9	4.3	
Peoria	609	11	45	29.29	29.95	− .03	73.4	− 0.0	99	24	87	50	19	64	36	66	62	69	3.23	+ 0.3	8	4,217	s.	38	nw.	9	13	10	8	4.6	
Springfield, Ill.	644	10	91	29.25	29.92	− .06	76.4	− 0.1	96	25	86	57	18	67	27	68	64	70	2.63	− 0.3	10	5,267	sw.	31	nw.	9	12	8	11	5.2	
Hannibal	534	75	109	29.36	29.92	− .06	76.1	− 1.3	95	24	86	56	19	66	29				9.32	+ 5.6	10	5,217	sw.	30	nw.	29	12	12	7	4.5	
St. Louis	567	208	317	29.33	29.92	− .07	76.8	− 2.3	94	25	85	60	19	69	28	70	66	72	4.21	+ 0.8	14	6,437	sw.	58	nw.	25	13	8	10	5.2	
Missouri Valley.							**76.3**	**+ 0.6**									**62**	**2.76**	**− 1.1**									**3.8**	
Columbia, Mo.	784	11	84	29.11	29.91	− .07	76.2	− 1.2	96	25	86	56	19	66	27				5.25	+ 1.6	8	4,435	s.	58	n.	9	19	8	4	3.2	
Kansas City	963	161	181	28.89	29.88	− .09	78.9	+ 1.3	103	26	88	62	19	70	27	70	67	70	2.99	− 1.8	9	7,321	s.	46	nw.	11	17	13	1	3.5	
St. Joseph							79.1		103	28	91	57	19	68	31	68	63	65	0.33		5	4,492	se.	31	se.	2	12	16	3	4.2	
Springfield, Mo.	1,324	98	104	28.56	29.93	− .05	75.8	− 0.6	95	29	84	58	19	67	25	69	66	74	4.25	− 0.5	12	5,971	s.	26	s.	22	19	11	1	2.7	
Iola	984	11	50	28.89	29.90	− .07	80.4	+ 2.3	105	26	93	58	13	68	30				0.85	− 3.1	5	4,870	s.	33	n.	7	18	8	5	3.3	
Topeka	983	85	101				79.4	+ 1.8	105	26	90	59	19	68	31				2.80	− 2.0	8	5,715	s.	49	n.	7	18	13	0	2.8	
Lincoln	1,189	11	84	28.67	29.89	− .06	76.8	+ 0.4	106	27	90	54	13	64	37	65	59	60	3.03	− 0.8	8	5,926	s.	50	ne.	2	12	10	9	4.7	
Omaha	1,105	115	121	28.76	29.91	− .04	77.8	+ 1.3	104	27	88	59	10	68	30	66	59	59	1.90	− 2.4	8	4,907	s.	28	e.	2	15	12	4	4.3	
Valentine	2,598	47	54	27.27	29.93	.00	74.0	+ 0.8	101	16	88	47	12	60	43	62	55	57	2.14	− 1.3	9	6,610	s.	44	n.	26	16	15	0	3.2	
Sioux City	1,135	96	164	28.74	29.91	− .04	74.0	− 0.2	94	16	85	53	12	63	31	64	59	62	3.69	+ 0.1	8	7,399	s.	54	s.	7	13	9	9	4.9	
Pierre	1,572	70	75	28.27	29.89	− .04	76.6	+ 1.4	102	15	90	50	12	64	37	62	53	50	1.88	− 0.5	12	7,075	e.	46	nw.	18	14	16	1	3.8	
Huron	1,306	56	67	28.56	29.92	− .02	72.0	+ 0.5	100	16	86	46	12	58	38	62	56	61	0.48	− 2.5	9	7,107	s.	41	nw.	5	18	8	5	3.6	
Yankton	1,233	49	57	28.62	29.90	− .04	74.0	− 0.6	98	16	86	51	12	62	32				3.87	+ 0.4	13	4,683	se.	37	nw.	5	7	23	1	4.6	
Northern Slope.							**70.2**	**+ 2.1**									**50**	**1.42**	**− 0.2**									**4.0**	
Havre	2,505	11	44	27.32	29.88	− .03	70.6	+ 2.5	102	17	86	44	27	55	45	58	50	55	0.84	− 1.1	5	5,861	nw.	40	n.	26	20	9	2	3.5	
Miles City	2,371	26	48	27.42	29.90	− .02	76.8	+ 3.9	108	14	92	51	10	62	44	60	49	46	0.93	− 0.4	4	4,507	ne.	35	nw.	23	20	10	1	2.7	
Helena	4,110	8	56	25.80	29.91	− .02	68.6	+ 2.0	93	17	83	41	9	54	38	53	42	46	0.61	− 0.5	6	5,064	sw.	33	w.	22	12	14	5	4.3	
Kalispell	2,962	11	34	26.89	29.88	− .05	66.6	+ 2.3	95	17	83	44	5	50	43	50	41	48	0.43	− 0.4	4	3,641	w.	24	w.	26	19	11	1	3.0	
Rapid City	3,234	46	50	26.60	29.93	.00	73.4	+ 3.2	101	15	86	46	12	60	37	59	49	47	5.76	+ 3.2	11	5,774	w.	42	nw.	19	11	11	9	4.8	
Cheyenne	6,088	56	64	24.11	29.93	+ .01	69.2	+ 1.8	95	26	84	43	10	55	40	54	45	51	1.32	− 0.7	11	6,039	nw.	40	w.	4	10	18	3	4.3	
Lander	5,372	26	36	24.71	29.92	.00	69.1	+ 1.1	94	25	86	42	10	52	46	54	43	48	0.67	− 0.2	10	2,897	sw.	28	sw.	22	12	17	2	4.4	
Sheridan	3,790	9	47	26.11	29.92		70.2		102	14	88	40	10	53	51	56	44	48	0.66		9	5,156	nw.	42	sw.	22	8	14	9	5.5	
Yellowstone Park	6,200	11	48	23.96	29.94	+ .02	63.0	+ 1.5	87	14	78	39	10	48	39	49	40	52	1.72	+ 0.5	12	5,505	sw.	44	s.	3	11	17	3	4.4	
North Platte	2,821	11	51	27.08	29.94	+ .01	74.6	+ 0.7	106	27	90	47	10	60	41	64	59	64	0.50	− 2.2	4	5,080	se.	33	n.	1	24	4	3	2.6	
Middle Slope.							**73.6**	**+ 1.9**									**54**	**1.83**	**− 1.2**									**4.0**	
Denver	5,291	129	136	24.80	29.93	+ .02	74.5	+ 2.7	101	23	89	51	9	60	39	56	45	45	3.47	+ 1.8	6	6,062	s.	45	nw.	28	13	15	3	4.1	
Pueblo	4,685	80	86	25.33	29.90	− .01	75.4	+ 1.2	99	19	90	53	13	61	40	58	48	47	1.94	0.0	6	5,335	se.	40	nw.	5	13	15	3	3.8	
Concordia	1,398	42	50	28.47	29.90	− .05	79.0	+ 0.9	106	23	91	56	10	66	36	67	62	61	1.54	− 2.1	6	4,115	se.	31	ne.	7	6	23	2	5.1	
Dodge City	2,500	11	51	27.35	29.88	− .05	78.9	+ 1.2	104	28	92	60	11	66	31	65	58	57	1.86	− 1.5	8	7,253	s.	40	ne.	11	14	17	0	3.7	
Wichita	1,358	98	121	28.52	29.91	− .05	81.4	+ 2.4	105	26	93	61	19	70	33	68	61	55	1.24	− 2.4	5	5,430	se.	47	n.	7	15	16	0	3.9	
Oklahoma	1,214	10	47	28.64	29.88	− .08	82.6	+ 2.8	104	29	94	64	12	71	29	70	64	61	0.94	− 2.7	8	9,319	s.	37	s.	10	14	13	4	3.7	
Southern Slope.							**83.5**	**+ 2.9**									**50**	**1.16**	**− 1.6**									**2.0**	
Abilene	1,738	10	52	28.13	29.87	− .06	86.4	+ 4.2	104	30	99	67	1	74	30	68	58	46	0.32	− 2.1	4	7,196	s.	33	sw.	10	18	12	1	3.1	
Amarillo	3,676	10	49	26.27	29.89	− .03	79.4	+ 3.3	100	8	93	58	1	66	37	64	57	55	3.57	+ 0.4	8	8,330	s.	48	e.	9	15	16	0	3.6	
Del Rio	944	8	57	28.91	29.87	− .03	87.0	+ 2.3	108	4	99	70	5	75	34				0.18	− 2.0	1	7,348	se.	36	s.	4	28	3	0	1.5	
Roswell	3,578	9	57	26.33	29.86	− .02	80.6	+ 1.7	102	5	96	60	4	65	41	63	54	50	0.57	− 2.9	7	3,779	se.	36	se.	9	13	18	0	4.0	
Southern Plateau.							**79.0**	**+ 0.6**									**43**	**1.04**	**− 0.3**									**3.3**	
El Paso	3,762	110	133	26.14	29.77	− .07	83.2	+ 2.7	102	8	95	64	10	71	35	61	47	34	0.60	− 1.5	2	8,138	se.	44	ne.	9	16	15	0	3.2	
Santa Fe	7,013	8	56	23.36	29.84	− .04	70.2	+ 1.5	88	22	83	47	2	58	37	54	44	44	0.82	− 1.9	8	6,256	ne.	37	n.	11	11	19	1	4.4	
Flagstaff	6,907	8	57	23.45	29.86	+ .03	65.4	+ 0.4	91	20	81	36	1	50	46	52	45	60	3.07	+ 1.3	13	4,865	sw.	34	s.	31	9	14	8	4.9	
Phoenix	1,108	50	56	28.64	29.75	− .03	89.6	− 0.8	111	20	103	68	1	76	38	70	60	42	0.65	− 0.4	5	3,218	w.	31	e.	16	14	14	3	3.4	
Yuma	141	9	58	29.60	29.75	− .02	91.0	+ 0.1	116	20	106	64	1	78	43	72	64	47	0.84	+ 0.7	3	4,785	sw.	39	se.	16	28	2	1	1.2	
Independence	3,910	11	42	25.93	29.84	+ .01	77.9	− 0.6	102	9	94	48	4	62	41	57	39	32	0.27	+ 0.2	2	5,070	s.	36	s.	13	21	8	2	2.6	
Middle Plateau.							**73.9**	**+ 1.3**									**40**	**0.77**	**+ 0.3**									**4.0**	
Reno	4,532	56	63	25.46	29.86	− .01	72.8	+ 5.3	97	7	90	40	4	56	43	53	40	40	1.45	+ 1.3	5	4,752	w.	28	w.	2	24	5	2	2.1	
Tonopah	6,090	12	20	24.11	29.88		73.5		92	11	86	41	4	61	30	54	39	35	0.52	+ 0.2	5	5,914	se.	31	w.	28	12	19	0	4.1	
Winnemucca	4,344	18	56	25.59	29.88	− .02	72.8	+ 1.2	98	25	91	40	5	55	49	56	45	46	0.10	− 0.1	2	3,742	sw.	42	s.	19	22	7	2	2.5	
Modena	5,479	10	43	24.64	29.86	.00	72.1	+ 2.4	96	21	88	44	6	56	46	53	37	39	0.91	+ 0.6	10	8,769	w.	56	sw.	3	9	15	7	5.4	
Salt Lake City	4,360	147	189	25.60	29.86	− .04	77.6	+ 1.4	97	19	90	54	6	66	35	57	41	31	0.52	0.0	8	5,869	nw.	44	sw.	12	13	16	2	4.0	
Durango	6,546	18	56	23.75	29.89	.00	69.3	+ 0.6	94	19	87	44	2	52	43	53	44	53	0.95	− 0.6	12	4,365	nw.	34	n.	18	3	27	1	5.4	
Grand Junction	4,608	43	51	25.38	29.87	− .02	78.8	− 0.4	101	22	93	59	1	65	41	57	43	36	0.96	+ 0.5	6	3,871	nw.	30	sw.	3	15	14	2	4.2	
Northern Plateau.							**74.6**	**+ 2.5**									**34**	**0.18**	**− 0.3**									**2.8**	
Boise	2,739	78	86	27.08	29.87	− .06	76.0	+ 3.2	103	13	91	50	23	61	40	56	40	33	T.	− 0.2	0	3,667	nw.	30	se.	14	22	6	3	2.4	
Lewiston	757	10	51	29.11	29.90	− .05	75.6	+ 2.0	103	16	92	52	1	59	42				0.10	− 0.3	1	4,887	e.	44	nw.	22	18	10	3	2.9	
Pocatello	4,477	46	54	25.47	29.86	− .06	73.6	+ 2.4	96	19	88	46	5	59	40	55	42	36	0.10	− 0.5	4	6,293	sw.	35	s.	3	16	14	1	3.1	
Spokane	1,929	101	110	27.90	29.90	− .06	71.6	+ 2.8	95	16	86	50	23	57	42	53	37	35	0.68	0.0	3	4,769	sw.	42	sw.	21	16	12	3	3.5	
Walla Walla	1,000	71	79	28.86	29.92	− .05	76.2	+ 2.1	100	19	90	54	1	62	37	56	38	30	T.	− 0.4	0	4,266	s.	24	s.	21	24	6	1	1.9	
N. Pac. Coast Reg.							**60.6**	**− 0.6**									**73**	**0.04**	**− 0.7**									**4.1**	
North Head	211	11	56	29.88	30.10	+ .02	55.2	− 2.5	67	10	58	46	20	52	11	53	50	84	0.13	− 0.4	3	12,242	nw.	40	nw.	8	5	16	10	6.2	
Port Crescent	259	8	53	29.83	30.11	+ .05	54.4	− 1.9	90	10	62	38	18	46	40					− 0.6	0	4,187	nw.	16	w.	21	13	17	1	3.5	
Seattle	123	185	224	29.94	30.07	+ .03	62.6	− 0.9	86	10	71	48	27	54	28	57	54	77	0.01	− 0.7	1	4,980	n.	30	sw.	21	9	18	4	4.6	

TABLE 1.—*Climatological data for U. S. Weather Bureau stations, July, 1910*—Continued.

Stations.	Elevation of instruments.			Pressure, in inches.			Temperature of the air, in degrees Fahrenheit.								Mean wet thermometer.	Mean temperature of the dew-point.	Mean relative humidity. per cent.	Precipitation, in inches.			Wind.					Clear days.	Partly cloudy days.	Cloudy days.	Average cloudiness during daylight, tenths.	Total snowfall.
	Barometer above sea level, feet.	Thermometers above ground.	Anemometer above ground.	Actual, reduced to mean of 24 hours.	Sea level, reduced to mean of 24 hrs.	Departure from normal.	Mean max. + mean min. ÷ 2.	Departure from normal.	Maximum.	Date.	Mean maximum.	Minimum.	Date.	Mean minimum.	Greatest daily range.				Total.	Departure from normal.	Days with .01, or more.	Total movement, miles.	Prevailing direction.	Maximum velocity. Miles per hour.	Maximum velocity. Direction.	Maximum velocity. Date.				
N.P.Coast Reg.—Con.																													
Tacoma	213	113	120	29.80	30.02	− .04	62.6	− 0.8	91	11	73	45	27	52	32	55	50	66	0.01	− 0.6	1	4,243	n.	24	w.	21	15	11	3	4.2	
Tatoosh Island	86	7	57	29.99	30.09	+ .04	54.0	− 1.1	72	10	58	48	27	50	19	52	50	90	0.13	− 1.6	6	6,895	sw.	32	s.	21	7	10	14	6.3	
Portland, Oreg.	153	68	106	29.86	30.02	− .03	67.1	+ 0.8	97	10	78	51	4	56	31	58	52	62	T.	− 0.5	0	5,245	nw.	19	nw.	9	18	12	1	2.7	
Roseburg	510	9	57	29.45	29.99	− .04	68.5	+ 2.4	98	10	84	45	5	52	43	57	49	59	0.03	− 0.3	1	3,299	n.	23	nw.	8	26	4	1	1.4	
Mid. Pac. Coast Reg.							66.2	− 0.7										60	T.	0.0									4.8	
Eureka	62	62	80	29.96	30.03	− .02	54.6	− 0.7	63	19	58	47	18	51	13	51	49	84	0.60	− 0.1	0	5,092	nw.	29	n.	1	4	13	14	7.1	
Mount Tamalpais	2,375	11	18	27.50	29.93	− .02	69.0	.....	93	18	77	42	3	61	29	55	43	45	0.60	0.0	0	8,955	nw.	64	nw.	2	27	3	1	1.4	
Point Reyes Light	400	7	18	29.39	29.91	.....	52.0	.....	64	5	56	45	7	48	17	.....	.....	.....	T.	.....	0	13,345	nw.	47	nw.	31	6	5	20	7.5	
Red Bluff	332	50	56	29.48	29.82	− .07	82.0	− 0.1	111	9	98	54	4	66	37	61	45	33	0.00	0.0	0	3,238	se.	17	nw.	19	30	1	0	0.5	
Sacramento	69	106	117	29.78	29.84	− .04	72.3	− 0.2	101	18	88	50	4	56	40	60	52	56	T.	0.0	0	6,470	s.	24	sw.	2	28	3	0	1.3	
San Francisco	155	200	204	29.77	29.94	− .01	56.4	− 0.9	76	5	62	48	7	51	25	52	50	84	T.	0.0	0	9,311	w.	32	w.	18	15	11	5	3.7	
San Jose	141	12	110	29.78	29.92	.....	65.5	− 1.4	89	6	80	43	1	52	42	.....	.....	.....	T.	0.0	0	3,503	nw.	17	nw.	25	28	2	1	2.0	
Southeast Farallon	30	9	17	29.93	29.96	.....	52.2	.....	58	10	54	48	7	50	7	.....	.....	.....	0.03	0.0	3	11,424	nw.	42	nw.	16	6	4	21	7.3	
S. Pac. Coast Reg.							70.9	+ 1.0										64	0.01	0.0									2.9	
Fresno	330	67	70	29.48	29.82	− .01	83.2	+ 1.2	110	21	100	51	4	66	42	60	43	31	T.	0.0	0	4,712	w.	21	w.	2	26	5	0	1.3	
Los Angeles	338	159	191	29.54	29.90	.00	70.2	+ 2.8	93	6	80	54	14	60	30	60	56	72	0.04	0.0	1	4,215	sw.	21	sw.	21	19	11	1	3.2	
San Diego	87	94	102	29.81	29.90	− .02	67.0	+ 0.1	82	6	72	56	4	62	19	62	60	81	0.01	0.0	1	4,490	nw.	27	s.	21	19	10	2	3.4	
San Luis Obispo	201	47	54	29.73	29.95	.00	63.1	− 0.1	88	5	75	42	3	52	41	55	50	70	T.	0.0	0	3,522	nw.	20	w.	3	18	10	3	3.8	
West Indies.																														
Grand Turk	11	6	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
San Juan	82	48	90	29.94	30.03	+ .04	80.0	.....	86	28	85	70	6	75	14	.....	.....	.....	2.57	− 3.2	15	9,934	e.	30	e.	5	14	12	5	4.6	
Panama.																														
Christobal	17	5	60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Culebra	172	4	30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Ancon	92	6	69	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Alhajuela	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Bohio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Gatun	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

† Below sea level.

TABLE II.—*Accumulated amounts of precipitation for each 5 minutes, for storms in which the rate of fall equaled or exceeded 0.25 in any 5 minutes, or 0.80 inch in 1 hour, during July, 1910, at all stations furnished with self-registering gages.*

Stations.	Date.	Total duration. From—	Total duration. To—	Total amount of precipitation.	Excessive rate. Began—	Excessive rate. Ended—	Amount before excessive began.	Depths of precipitation (in inches) during periods of time indicated. 5 min.	10 min.	15 min.	20 min.	25 min.	30 min.	35 min.	40 min.	45 min.	50 min.	60 min.	80 min.	100 min.	120 min.
Abilene, Tex	10	.....	.....	0.24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.17	.....	.....	.....
Albany, N. Y	27–28	.....	.....	0.60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.27	.....	.....	.....
Alpena, Mich	24	3:49 p. m.	4:10 p. m.	0.62	3:50 p. m.	4:04 p. m.	T.	0.35	0.54	0.62	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Amarillo, Tex	9	6:20 p. m.	8:45 p. m.	2.05	6:45 p. m.	7:17 p. m.	0.12	0.27	0.41	0.56	0.89	1.18	1.38	1.48	.....	.....	.....	.....	.....	.....	.....
Anniston, Ala	17	4:05 p. m.	6:15 p. m.	0.74	4:09 p. m.	4:36 p. m.	0.02	0.11	0.13	0.23	0.61	0.67	0.71	.....	.....	.....	.....	.....	.....	.....	.....
Asheville, N. C	4	8:03 p. m.	11:30 p. m.	0.70	8:26 p. m.	9:01 p. m.	0.01	0.08	0.15	0.24	0.48	0.55	0.60	0.65	.....	.....	.....	.....	.....	.....	.....
Do	28	3:50 a. m.	5:45 a. m.	0.72	4:33 a. m.	4:46 a. m.	0.07	0.27	0.46	0.55	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Atlanta, Ga	2	2:00 p. m.	3:25 p. m.	0.79	2:04 p. m.	2:19 p. m.	0.01	0.32	0.47	0.69	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Atlantic City, N. J	17	D. N.	8:40 a. m.	0.64	7:32 a. m.	7:47 a. m.	0.10	0.14	0.29	0.42	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Augusta, Ga	8	5:00 p. m.	D. N.	0.98	5:09 p. m.	5:22 p. m.	0.01	0.58	0.74	0.81	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Baltimore, Md	10	3:30 p. m.	4:25 p. m.	0.57	4:08 p. m.	4:20 p. m.	0.01	0.19	0.52	0.56	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bentonville, Ark	11	1:15 a. m.	5:55 a. m.	1.58	1:26 a. m.	1:51 a. m.	0.03	0.22	0.41	0.52	0.66	0.75	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	11–12	11:35 p. m.	11:40 p. m.	3.88	11:50 p. m.	12:35 a. m.	0.03	0.15	0.30	0.33	0.35	0.48	0.78	0.99	1.24	1.61	.....	.....	.....	.....	.....
Do	.....	.....	.....	.....	3:33 a. m.	4:33 a. m.	2.08	0.29	0.35	0.37	0.51	0.66	0.70	0.71	0.71	0.77	0.85	0.97	.....	.....	.....
Binghamton, N.Y	21	3:02 p. m.	6:50 p. m.	0.62	5:17 p. m.	5:32 p. m.	0.09	0.09	0.35	0.46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Birmingham, Ala	1	3:40 p. m.	5:40 p. m.	0.92	4:56 p. m.	5:16 p. m.	0.06	0.15	0.39	0.68	0.77	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	2	D. N.	9:45 p. m.	1.59	7:09 a. m.	8:06 a. m.	0.50	0.07	0.10	0.11	0.13	0.15	0.27	0.41	0.53	0.67	0.78	0.97	.....	.....	.....
Do	3	2:09 p. m.	5:00 p. m.	1.78	2:11 p. m.	3:05 p. m.	0.01	0.10	0.44	0.92	1.22	1.34	1.48	1.59	1.63	1.64	1.66	1.71	.....	.....	.....
Do	13	5:14 p. m.	7:35 p. m.	0.88	5:17 p. m.	5:33 p. m.	0.01	0.21	0.40	0.67	0.69	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	24	9.22 a. m.	12:15 p. m.	2.53	9:46 a. m.	10:56 a. m.	0.04	0.17	0.39	0.71	1.00	1.40	1.80	1.95	1.99	2.00	2.05	2.22	2.38	.....	.....
Bismarck, N. Dak	11	.....	.....	0.38	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.19	.....	.....	.....
Block Island, R. I	28	.....	.....	0.66	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.53	.....	.....	.....
Boise, Idaho	20	.....	.....	T.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T.	.....	.....	.....
Boston, Mass	25	.....	.....	0.41	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.33	.....	.....	.....
Buffalo, N. Y	24	5:45 p. m.	9:00 p. m.	3.08	6:46 p. m.	7:26 p. m.	0.04	0.09	0.15	0.27	0.44	0.53	0.56	0.70	1.01	.....	.....	.....	.....	.....	.....
Burlington, Vt	3	.....	.....	0.57	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.45	.....	.....	.....
Cairo, Ill	2	4:15 p. m.	5:50 p. m.	0.60	4:18 p. m.	4:32 p. m.	0.01	0.20	0.36	0.48	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	5	8:05 p. m.	D. N.	1.18	8:37 p. m.	9:12 p. m.	0.05	0.07	0.22	0.38	0.45	0.71	0.99	1.09	.....	.....	.....	.....	.....	.....	.....
Canton, N. Y	15	.....	.....	0.31	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.23	.....	.....	.....
Charles City, Iowa	23	.....	.....	0.14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.14	.....	.....	.....
Charleston, S. C	8	10:15 p. m.	D. N.	0.55	11:02 p. m.	11:27 p. m.	0.05	0.10	0.18	0.23	0.33	0.47	0.50	.....	.....	.....	.....	.....	.....	.....	.....
Do	9	12:00 M.	1:20 p. m.	0.74	12:07 p. m.	12:27 p. m.	0.01	0.08	0.45	0.63	0.68	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	29	3:10 p. m.	4:15 p. m.	0.90	3:46 p. m.	4:06 p. m.	0.15	0.19	0.32	0.50	0.73	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Charlotte, N.C	9	4:52 p. m.	7:05 p. m.	0.77	4:52 p. m.	5:11 p. m.	0.00	0.29	0.38	0.50	0.57	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chattanooga, Tenn	6	3:53 p. m.	5:35 p. m.	0.56	4:51 p. m.	5:11 p. m.	0.03	0.08	0.18	0.39	0.50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	29	10:46 a. m.	12:50 p. m.	0.56	11:01 a. m.	11:16 a. m.	0.01	0.11	0.43	0.52	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cheyenne, Wyo	16	.....	.....	0.34	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chicago, Ill	22	3:40 p. m.	4:32 p. m.	0.43	3:45 p. m.	3:56 p. m.	0.01	0.18	0.35	0.36	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cincinnati, Ohio	12	12:22 p. m.	1:20 p. m.	0.55	12:22 p. m.	12:51 p. m.	0.00	0.17	0.20	0.20	0.34	0.46	0.50	.....	.....	.....	.....	.....	.....	.....	.....
Do	17	10:00 a. m.	1:40 p. m.	0.91	10:59 p. m.	11:26 a. m.	0.01	0.12	0.24	0.38	0.64	0.73	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cleveland, Ohio	27	.....	.....	0.25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.16	.....	.....	.....
Columbia, Mo	14	10:32 a. m.	11:05 a. m.	0.61	10:33 a. m.	10:48 a. m.	T.	0.33	0.58	0.61	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	14–15	D. N.	8:30 a. m.	1.79	12:18 a. m.	1:08 a. m.	0.20	0.07	0.16	0.20	0.22	0.27	0.37	0.50	0.74	0.83	0.92	.....	.....	.....	.....
Columbia, S. C	13	11:25 a. m.	1:30 p. m.	1.69	11:32 a. m.	12:26 p. m.	0.01	0.14	0.30	0.53	0.71	0.86	0.97	1.09	1.30	1.42	1.54	1.66	.....	.....	.....
Do	18–19	9:10 p. m.	11:20 a. m.	1.28	9:15 p. m.	9:31 p. m.	0.02	0.21	0.58	0.84	0.93	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Columbus, Ohio	6	1:23 p. m.	3:20 p. m.	0.36	2:33 p. m.	2:46 p. m.	0.01	0.11	0.34	0.35	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Concord, N. H	22	.....	.....	0.19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.19	.....	.....	.....
Concordia, Kans	13–14	10:12 p. m.	12:55 a. m.	1.04	12:21 a. m.	12:46 a. m.	0.42	0.06	0.31	0.49	0.52	0.61	.....	.....	.....	.....	.....	.....	.....	.....	.....
Corpus Christi, Tex	2	.....	.....	0.14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.14	.....	.....	.....
Davenport, Iowa	14	11:13 a. m.	12:55 p. m.	2.01	11:37 a. m.	11:59 a. m.	0.01	0.38	0.92	1.38	1.59	1.61	.....	.....	.....	.....	.....	.....	.....	.....	.....
Del Rio, Tex	19	.....	.....	0.18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....

TABLE II.—*Accumulated amounts of precipitation for each 5 minutes, etc.*—Continued.

Stations.	Date.	Total duration. From—	Total duration. To—	Total amount of precipitation.	Excessive rate. Began—	Excessive rate. Ended—	Amount before excessive began.	Depths of precipitation (in inches) during periods of time indicated. 5 min.	10 min.	15 min.	20 min.	25 min.	30 min.	35 min.	40 min.	45 min.	50 min.	60 min.	80 min.	100 min.	120 min.
Denver, Colo	28-29	1:30 p. m.	D. N.	2.22	1:08 p. m.	2:08 p. m.	0.02	0.10	0.17	0.25	0.30	0.39	0.58	0.68	0.77	0.92	1.00	1.11			
Des Moines, Iowa	25			0.54														0.49			
Detroit, Mich	24			0.34														0.33			
Devils Lake, N. Dak	23	3:10 a. m.	9:50 a. m.	1.04	4:12 a. m.	4:43 a. m.	0.10	0.05	0.11	0.17	0.35	0.45	0.51								
Dodge City, Kans	11-12	8:57 p. m.	D. N.	1.37	9:05 p. m.	9:40 p. m.	0.03	0.17	0.32	0.42	0.53	0.63	0.70	0.77							
Dubuque, Iowa	9			0.18																	
Duluth, Minn	23	1:00 p. m.	2:40 p. m.	1.62	1:51 p. m.	2:27 p. m.	0.01	0.08	0.13	0.28	0.58	0.86	1.17	1.57	1.59			0.18			
Durango, Colo	29-30			0.48																	
Eastport, Me	13			0.43														0.20			
Elkins, W. Va	27-28	9:50 p. m.	12:20 a. m.	0.46	11:25 p. m.	11:35 p. m.	0.07	0.30	0.35									0.43			
El Paso, Tex	10			0.59																	
Erie, Pa	12	3:25 p. m.	5:40 p. m.	1.43	3:54 p. m.	4:14 p. m.	0.09	0.41	0.74	0.93	1.09							0.44			
Escanaba, Mich	26			0.74																	
Eureka, Cal	‡																	0.28			
Evansville, Ind	3	1:45 p. m.	2:50 p. m.	0.75	2:18 p. m.	2:38 p. m.	0.03	0.16	0.37	0.60	0.72										
Do	4	12:10 p. m.	12:52 p. m.	0.82	12:17 p. m.	12:32 p. m.	0.04	0.35	0.66	0.78											
Do	6	4:55 a. m.	8:15 a. m.	1.33	5:01 a. m.	5:31 a. m.	0.02	0.05	0.14	0.31	0.43	0.59	0.69								
Do	9	2:40 p. m.	3:30 p. m.	0.82	2:48 p. m.	3:03 p. m.	0.01	0.40	0.67	0.79											
Do	25	8:35 p. m.	10:40 p. m.	2.22	8:38 p. m.	10:03 p. m.	T.	0.07	0.41	0.53	0.65	0.77	0.85	0.95	1.08	1.19	1.31	1.60	2.15	2.20	
Flagstaff, Ariz	31	12:40 p. m.	2:30 p. m.	0.48	1:22 p. m.	1:35 p. m.	0.05	0.14	0.34	0.41											
Fort Smith, Ark	8	2:16 p. m.	5:38 p. m.	0.68	2:21 p. m.	2:36 p. m.	0.01	0.11	0.25	0.35											
Fort Worth, Tex	7			0.14														0.14			
Fresno, Cal	18			T.														T.			
Galveston, Tex	3	7:25 a. m.	10:45 a. m.	1.10	7:49 a. m.	8:24 a. m.	0.03	0.15	0.28	0.38	0.57	0.73	0.81	0.86							
Do	5	5:15 a. m.	9:50 a. m.	1.11	8:07 a. m.	8:50 a. m.	0.25	0.20	0.32	0.37	0.49	0.56									
Do	19	5:55 a. m.	11:15 a. m.	2.81	7:46 a. m.	8:08 a. m.	0.05	0.25	0.34	0.48	0.59										
					8:54 a. m.	10:14 a. m.	0.74	0.06	0.28	0.48	0.63	0.80	0.96	0.99	0.99	0.99	1.00	1.39	2.04		
Grand Haven, Mich	24			0.68														0.53			
Grand Junction, Colo	27			0.61														0.36			
Grand Rapids, Mich	24			0.48														0.27			
Green Bay, Wis	24	1:30 a. m.	4:10 a. m.	1.14	1:40 a. m.	2:20 a. m.	0.01	0.13	0.34	0.36	0.42	0.62	0.80	0.90	0.97						
Hannibal, Mo	14-15	7:55 p. m.	12:35 p. m.	3.36	10:09 p. m.	10:24 p. m.	0.18	0.15	0.41	0.53											
Do	28-29	D. N.	5:30 a. m.	4.84	11:53 p. m.	12:22 a. m.	0.02	0.14	0.16	0.16	0.28	0.62	0.67								
					1:25 a. m.	3:20 a. m.	0.88	0.32	0.67	0.84	0.86	0.89	0.93	0.95	1.19	1.54	1.79	2.07	2.65	3.27	3.87
Harrisburg, Pa	28	12:16 a. m.	1:30 a. m.	0.66	12:49 a. m.	1:09 a. m.	0.04	0.20	0.34	0.53	0.59										
Hartford, Conn	30	3:27 p. m.	4:03 p. m.	0.44	3:34 p. m.	3:39 p. m.	0.01	0.34													
Hatteras, N. C	8			0.32														0.29			
Havre, Mont	4			0.40														0.20			
Helena, Mont	4			0.21														0.20			
Houghton, Mich	23			1.27														0.48			
Huron, S. Dak	9			0.15														0.10			
Independence, Cal	17			0.18														0.11			
Indianapolis, Ind	11	3.22 p. m.	5:00 p. m.	1.26	3:54 p. m.	4:40 p. m.	0.02	0.08	0.15	0.39	0.69	1.06	1.15	1.15	1.16	1.21	1.23				
Iola, Kans	11			0.31														0.24			
Jacksonville Fla	7	4:30 p. m.	5:15 p. m.	0.76	4:36 p. m.	4:52 p. m.	0.01	0.21	0.55	0.71	0.74										
Do	31	2:25 p. m.	3:20 p. m.	0.64	2:36 p. m.	2:53 p. m.	0.05	0.10	0.31	0.50	0.58										
Do	31	5:45 p. m.	D. N.	1.38	6:45 p. m.	7:21 p. m.	0.21	0.05	0.10	0.18	0.33	0.54	0.68	0.77	0.82						
Jupiter, Fla	20	12:40 p. m.	5:30 p. m.	1.38	12:44 p. m.	1:29 p. m.	0.01	0.19	0.44	0.65	0.69	0.73	0.82	0.96	1.15	1.26					
Do	28	12:02 p. m.	12:50 p. m.	1.19	12:07 p. m.	12:32 p. m.	0.01	0.29	0.72	0.94	1.06	1.15									
Kalispell, Mont	22			0.21														0.18			
Kansas City, Mo	14	6:57 a. m.	11:35 a. m.	1.14	7:19 a. m.	7:57 a. m.	0.06	0.10	0.15	0.21	0.32	0.54	0.70	0.84	0.92	0.93					
Keokuk, Iowa	14			0.67														0.28			
Key West, Fla	19	8:45 p. m.	10:46 p. m.	0.55	8:59 p. m.	9:19 p. m.	T.	0.24	0.31	0.39	0.42										
Knoxville, Tenn	3	12:14 p. m.	1:16 p. m.	0.63	12:15 p. m.	12:56 p. m.	0.01	0.08	0.08	0.08	0.08	0.08	0.12	0.36	0.61						
Do	13	11:41 a. m.	1:15 p. m.	1.15	11:49 a. m.	1.02 p. m.	0.01	0.21	0.22	0.24	0.26	0.26	0.26	0.40	0.51	0.64	0.71	0.91	1.14		
La Crosse, Wis	16-17			0.48														0.45			
Lander, Wyo	30			0.29														0.24			
La Salle, Ill	14			0.23														0.21			
Lewiston, Idaho	21			0.10														0.08			
Lexington, Ky	7	1:20 p. m.	2:40 p. m.	1.18	1:24 p. m.	2:08 p. m.	0.01	0.15	0.20	0.39	0.74	0.86	0.87	1.03	1.07	1.12					
Lincoln, Nebr	7	10:10 a. m.	1:54 p. m.	2.26	10:41 a. m.	11:56 a. m.	0.11	0.15	0.32	0.47	0.57	0.64	0.68	0.68	0.94	1.13	1.19	1.47	1.87		
Little Rock, Ark	3	10:55 a. m.	12:05 p. m.	0.89	11:12 a. m.	11:35 a. m.	0.07	0.31	0.55	0.68	0.75	0.81									
Do	4	3:05 p. m.	5:55 p. m.	0.80	3:11 p. m.	3:28 p. m.	0.01	0.23	0.55	0.70	0.76										
Los Angeles, Cal	25			0.04														0.04			
Louisville, Ky	9	12:47 p. m.	1:20 p. m.	0.66	12:53 p. m.	1.08 p. m.	0.01	0.22	0.44	0.64											
Do	9	5:17 p. m.	6:15 p. m.	0.79	5:19 p. m.	5:34 p. m.	0.01	0.29	0.44	0.51											
Lynchburg, Va	11	7:31 p. m.	8:52 p. m.	1.26	7:34 p. m.	8:20 p. m.	0.01	0.10	0.17	0.29	0.48	0.68	0.92	1.08	1.15	1.20					
Do	16-17	11:15 p. m.	3:00 a. m.	0.93	11:21 p. m.	11:50 p. m.	0.01	0.31	0.53	0.60	0.65	0.73									
Do	18	6:20 a. m.	3:35 p. m.	1.30	7:35 a. m.	8:32 a. m.	0.23	0.05	0.09	0.16	0.21	0.26	0.33	0.42	0.52	0.64	0.76	0.83			
Macon, Ga	3	2:27 p. m.	3:05 p. m.	0.79	2:27 p. m.	2:41 p. m.	T.	0.22	0.63	0.76											
Do	18	D. N.	D. N.	1.03	12:10 a. m.	12:32 a. m.	0.02	0.11	0.30	0.41	0.52	0.56									
Madison, Wis	24			0.28														0.28			
Marquette, Mich	23-24	10:10 p. m.	3:00 a. m.	1.50	11:22 p. m.	11:59 p. m.	0.09	0.12	0.22	0.31	0.33	0.43	0.72	1.04	1.06						
Memphis, Tenn	13	1:50 a. m.	8:00 a. m.	0.87	1.56 a. m.	2.25 a. m.	0.01	0.09	0.12	0.30	0.45	0.54	0.62								
Meridian, Miss	13	8:18 p. m.	10:20 p. m.	1.26	9:01 p. m.	9:25 p. m.	0.01	0.19	0.49	0.87	1.10	1.16									
Do	23	4:52 p. m.	6:16 p. m.	0.67	5:05 p. m.	5:40 p. m.	T.	0.07	0.16	0.23	0.31	0.33	0.52	0.64							
Do	24	10:10 a. m.	5:35 p. m.	1.09	2:16 p. m.	2:37 p. m.	0.02	0.13	0.34	0.67	0.87	0.88									
Milwaukee, Wis	9	3:10 p. m.	6:50 p. m.	1.33	4:50 p. m.	6:00 p. m.	0.02	0.16	0.16	0.16	0.16	0.16	0.21	0.35	0.46	0.50	0.60	1.06	1.26		
Do	12	11:19 a. m.	1:15 p. m.	1.17	11:19 a. m.	12:19 p. m.	0.01	0.16	0.54	0.62	0.69	0.70	0.72	0.83	0.87	0.89	0.98	1.13			
Minneapolis, Minn	23			0.17														0.16			
Mobile, Ala	3	7:45 a. m.	10:00 a. m.	1.77	7:53 a. m.	8:52 a. m.	0.02	0.16	0.31	0.55	0.81	0.95	0.96	0.97	1.02	1.31	1.43	1.68			
Do	7	D. N.	8:00 a. m.	4.74	3:08 a. m.	5:07 a. m.	0.21	0.15	0.28	0.43	0.56	0.86	0.95	1.20	1.39	1.58	1.70	2.23	2.34	2.72	3.35
Do	31	12:05 p. m.	5:30 p. m.	0.82	12:23 p. m.	12:56 p. m.	0.01	0.18	0.27	0.36	0.43	0.60	0.65	0.72							
Modena, Utah	13			0.30														0.29			
Montgomery, Ala	2	11:30 a. m.	1:30 p. m.	0.64	11:37 a. m.	11:53 a. m.	0.04	0.24	0.35	0.49	0.51										
Do	18	1:22 p. m.	4:33 p. m.	1.06	1:24 p. m.	1:40 p. m.	0.01	0.35	0.73	0.84	0.86										
Do	24	D. N.	9.44 a. m.	4.75	4:47 a. m.	5:37 a. m.	0.27	0.16	0.33	0.52	0.84	1.16	1.37	1.62	2.11	2.49	2.78				
					5:37 a. m.	6:27 a. m.	.....	2.96	2.99	3.05	3.10	3.22	3.31	3.43	3.53	3.59	3.64				
					6:27 a. m.	7:14 a. m.	.....	3.70	3.83	3.96	4.00	4.10	4.17	4.25	4.30	4.36	4.37				
Moorhead, Minn	11			0.44														0.20			
Mount Tamalpais, Cal	‡																				
Mount Weather, Va	11	2:45 p. m.	3:40 p. m.	0.80	2:57 p. m.	3:22 p. m.	0.02	0.07	0.37	0.50	0.68	0.76									
Nantucket, Mass	30	11:20 a. m.	3:50 p. m.	2.40	12:21 p. m.	1:00 p. m.	0.10	0.29	0.37	0.37	0.41	0.63	0.78	1.00	1.24	1.42					
Nashville, Tenn	16	3:23 p. m.	3:55 p. m.	0.63	3:24 p. m.	3:48 p. m.	0.01	0.17	0.22	0.28	0.52	0.61									
New Haven, Conn	16			0.86														0.58			
New Orleans, La	4	5:20 a. m.	9:15 a. m.	1.85	5:35 a. m.	6:25 a. m.	T.	0.17	0.33	0.55	0.66	0.92	1.12	1.19	1.34	1.41	1.46				
Do	19	6:20 a. m.	11:07 a. m.	1.85	6:38 a. m.	7:23 a. m.	0.01	0.12	0.27	0.35	0.60	0.88	1.11	1.11	1.33	1.40					
New York, N. Y	30			0.11														0.11			
Norfolk, Va	7	2:15 p. m.	2:30 p. m.	0.70	2:18 p. m.	2:26 p. m.	0.01	0.44	0.69												
Do	14	4:00 p. m.	7:00 p. m.	1.22	4:26 p. m.	5:26 p. m.	0.08	0.08	0.19	0.36	0.43	0.51	0.58	0.68	0.73	0.77	0.89	1.08			
Do	17	5:20 p. m.	6:50 p. m.	1.36	5:28 p. m.	6:27 p. m.	0.01	0.47	0.63	0.70	0.73	0.75	0.76	0.76	0.78	0.95	1.11	1.33			
Northfield, Vt	13			0.58														0.57			
North Head, Wash	13			0.06														0.03			

TABLE II.—*Accumulated amounts of precipitation for each 5 minutes, etc.*—Continued.

Stations.	Date.	Total duration. From—	Total duration. To—	Total amount of precipitation.	Excessive rate. Began—	Excessive rate. Ended—	Amount before excessive began.	Depths of precipitation (in inches) during periods of time indicated. 5 min.	10 min.	15 min.	20 min.	25 min.	30 min.	35 min.	40 min.	45 min.	50 min.	60 min.	80 min.	100 min.	120 min.
North Platte, Nebr	5	5:10 p. m.	5:32 p. m.	0.36	5:19 p. m.	5:29 p. m.	0.01	0.27	0.34	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oklahoma, Okla	31			0.31														0.15			
Omaha, Nebr	2	4:15 p. m.	5:40 p. m.	0.76	4:26 p. m.	5:01 p. m.	0.01	0.08	0.15	0.24	0.43	0.59	0.66	0.71							
Oswego, N. Y	10			0.86														0.86			
Palestine, Tex	4	2:40 p. m.	3:45 p. m.	0.86	2:50 p. m.	3:14 p. m.	0.01	0.08	0.32	0.55	0.71	0.79									
Do	7	6:33 p. m.	9:55 p. m.	0.70	6:47 p. m.	7:11 p. m.	0.03	0.14	0.31	0.38	0.43	0.50									
Parkersburg, W. Va	3	1:45 p. m.	6:08 p. m.	0.48	1.47 p. m.	1:56 p. m.	0.01	0.27	0.39	.....											
Pensacola, Fla	19	1:35 p. m.	2:00 p. m.	0.54	1:38 p. m.	1:50 p. m.	0.01	0.18	0.48	0.53											
Do	23	10:40 a. m.	11:25 a. m.	1.04	10:50 a. m.	11:13 a. m.	0.04	0.11	0.54	0.75	0.92	0.98									
Peoria, Ill	28	12:54 a. m.	6:34 a. m.	1.71	1:00 a. m.	2:00 a. m.	0.03	0.08	0.26	0.40	0.48	0.51	0.54	0.60	0.76	1.04	1.27	1.44			
Philadelphia, Pa	30	7:27 a. m.	9:05 a. m.	0.67	7:30 a. m.	7:58 a. m.	0.01	0.05	0.15	0.27	0.48	0.62	0.64								
Phoenix, Ariz	16			0.30														0.30			
Pierre, S. Dak	18-19	11:12 p. m.	12:50 a. m.	0.86	11:25 p. m.	11:36 p. m.	0.09	0.22	0.40	0.43	0.45										
Pittsburg, Pa	7			0.49														0.32			
Pocatello, Idaho	14			0.05														0.03			
Point Reyes Light, Cal	3			T.														T.			
Port Huron, Mich	24	11:00 a. m.	2:50 p. m.	2.85	11:10 a. m.	11:30 a. m.	0.01	0.27	0.72	0.83	0.86										
					12:26 p. m.	1:46 p. m.	0.90	0.21	0.42	0.60	0.78	0.94	1.02	1.05	1.11	1.25	1.33	1.44	1.74		
Do	24	6:30 p. m.	7:05 p. m.	1.26	6:30 p. m.	6:56 p. m.	0.00	0.11	0.41	0.70	0.99	1.25	1.26								
Portland, Me	8			0.63														0.47			
Portland, Oreg	20			T.														T			
Providence, R. I	25	7:18 p. m.	8:22 p. m.	1.11	7:36 p. m.	8:10 p. m.	0.05	0.18	0.52	0.80	0.84	0.85	0.94	1.02							
Pueblo, Colo	19	7:02 p. m.	10:10 p. m.	0.77	8:06 p. m.	8:39 p. m.	0.12	0.08	0.24	0.32	0.38	0.44	0.55	0.58							
Raleigh, N. C	7	6:28 p. m.	10:30 p. m.	1.20	6:33 p. m.	7:17 p. m.	0.01	0.19	0.45	0.69	0.71	0.71	0.77	0.91	1.01	1.07					
Do	13	3:50 p. m.	5:25 p. m.	2.19	4:11 p. m.	5:12 p. m.	0.11	0.21	0.57	1.13	1.40	1.49	1.52	1.53	1.54	1.55	1.81	2.05			
Rapid City, S. Dak	22	1:45 p. m.	3:55 p. m.	2.77	2:06 p. m.	3:16 p. m.	0.01	0.24	0.38	0.56	0.72	0.81	0.96	1.10	1.26	1.46	1.81	2.41	2.74		
Red Bluff, Cal	‡																				
Reno, Nev	17	4:20 p. m.	7:00 p. m.	0.82	4:42 p. m.	5:25 p. m.	0.03	0.15	0.28	0.37	0.41	0.45	0.54	0.63	0.70	0.73	0.73	.....	.....	.....	.....
Richmond, Va	7	1:51 p. m.	3:17 p. m.	0.73	1:52 p. m.	2:17 p. m.	0.09	0.34	0.53	0.59	0.68										
Do	14	5:15 p. m.	7:45 p. m.	0.92	5:28 p. m.	6:26 p. m.	0.02	0.13	0.24	0.38	0.49	0.58	0.62	0.70	0.73	0.77	0.85	0.88			
Do	17-18	4:00 p. m.	8:25 p. m.	2:49	4:00 p. m.	5:37 p. m.	0.00	0.11	0.26	0.31	0.55	0.60	0.67	0.71	0.88	0.97	0.98	1.04	1.25	1.45	
Rochester, N. Y	24			0.75														0.59			
Roseburg, Oreg	20			0.03														0.03			
Rosewell, N. Mex	10			0.24														0.24			
Sacramento, Cal	26			T.														T.			
St. Louis, Mo	29	4:10 a. m.	7:55 a. m.	0.97	5:15 a. m.	5:39 a. m.	0.09	0.05	0.13	0.25	0.49	0.56									
St. Paul, Minn	23			0.24														0.19			
Salt Lake City, Utah	27			0.19														0.19			
San Antonio, Tex	4			0.31														0.27			
San Diego, Cal	18			0.01														0.01			
Sandusky, Ohio	6	4:00 p. m.	5:30 p. m.	0.45	4:05 p. m.	4:25 p. m.	T.	0.10	0.23	0.39	0.41										
San Francisco, Cal	19			T.														T.			
San Jose, Cal	3			T.														T.			
San Luis Obispo, Cal	18			T.														T.			
Santa Fe, N. Mex	5			0.18														0.17			
Sault Sainte Marie, Mich	23			0.43														0.34			
Savannah, Ga	1	1:45 p. m.	3:40 p. m.	0.88	2:02 p. m.	2:18 p. m.	0.01	0.21	0.57	0.77											
Do	26-27	9:05 p. m.	D. N.	0.57	10:28 p. m.	10:48 p. m.	0.04	0.11	0.29	0.40	0.49										
Scranton, Pa	10	3:27 p. m.	4:40 p. m.	0.32	4:03 p. m.	4:08 p. m.	0.04	0.25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Seattle, Wash	22			0.01														0.01			
Sheridan, Wyo	21			0.27														0.27			
Shreveport, La	4	3:30 p. m.	5:10 p. m.	0.66	3:32 p. m.	3:54 p. m.	0.01	0.14	0.16	0.31	0.51	0.58									
Sioux City, Iowa	13-14	10:45 p. m.	9:30 p. m.	2.11	4:25 a. m.	5:45 a. m.	0.17	0.15	0.28	0.38	0.46	0.50	0.62	0.67	0.70	0.82	0.93	1.03	1.21		
Southeast Farallon, Cal	13			0.01														0.01			
Spokane, Wash	21	1:50 p. m.	2:15 p. m.	0.39	1:51 p. m.	2:01 p. m.	0.01	0.23	0.37	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Springfield, Ill	15			1.24														0.48			
Springfield, Mo	3	2:52 p. m.	7:51 p. m.	0.70	3:00 p. m.	3:15 p. m.	0.02	0.23	0.31	0.36											
Syracuse, N. Y	27	7:23 p. m.	9:00 p. m.	0.71	7:25 p. m.	7:35 p. m.	T.	0.21	0.54	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tacoma, Wash	22			0.01														T.			
Tampa, Fla	6	5:20 p. m.	7:50 p. m.	1.76	5:27 p. m.	6:00 p. m.	0.01	0.24	0.67	1.08	1.35	1.50	1.61	1.68							
Do	21	4:25 p. m.	7:03 p. m.	1.56	5:38 p. m.	5:49 p. m.	0.63	0.37	0.85	0.92											
Tatoosh Island, Wash	21			0.05														0.04			
Taylor, Tex	18			0.17														0.14			
Thomasville, Ga	10	6:01 p. m.	7:40 p. m.	0.52	6:08 p. m.	6:16 p. m.	0.02	0.35	0.47												
Do	30	2:15 p. m.	4:45 p. m.	1.04	2:25 p. m.	2:45 p. m.	0.01	0.33	0.61	0.76	0.91										
Do	31	3:45 p. m.	8:35 p. m.	1.01	4:46 p. m.	5:05 p. m.	0.08	0.17	0.40	0.57	0.65										
Toledo, Ohio	26-27	10:19 p. m.	5:50 a. m.	0.79	4:03 a. m.	4:21 a. m.	0.24	0.07	0.35	0.49	0.54										
Tonopah, Nev	20			0.17														0.17			
Topeka, Kans	11	5:07 p. m.	8:45 p. m.	1.74	5:14 p. m.	6:05 p. m.	0.04	0.07	0.27	0.53	0.61	0.76	1.13	1.26	1.31	1.39	1.46				
Valentine, Nebr	1			0.89														0.28			
Vicksburg, Miss	2	8:03 a. m.	10:20 a. m.	1.01	8:36 a. m.	9:22 a. m.	0.09	0.19	0.27	0.31	0.35	0.41	0.47	0.56	0.62	0.71	0.73				
Do	4	12:15 p. m.	2:50 p. m.	0.89	12:30 p. m.	12:55 p. m.	0.04	0.07	0.20	0.37	0.53	0.60									
Do	6	11:01 a. m.	12:20 p. m.	0.60	11:53 a. m.	12:07 p. m.	0.04	0.32	0.45	0.54											
Do	18	2:50 a. m.	7:20 a. m.	1.79	3:03 a. m.	3:47 a. m.	0.01	0.25	0.48	0.66	0.84	0.96	1.09	1.19	1.25	1.31	.....	.....	.....	.....	.....
Walla Walla, Wash	2			T.														T.			
Washington, D. C	4	2:40 p. m.	3:30 p. m.	0.81	2:42 p. m.	3:09 p. m.	0.01	0.15	0.45	0.57	0.65	0.72	0.77								
Do	12	4:55 p. m.	10:00 p. m.	1.53	6:46 p. m.	7:15 p. m.	0.28	0.22	0.44	0.79	0.99	1.14	1.21								
Wichita, Kans	11-12	8:35 p. m.	2:00 a. m.	0.96	9:36 p. m.	9:45 p. m.	0.08	0.13	0.31	0.36	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Williston, N. Dak	22			0.38														0.24			
Wilmington, N.C	1	12:12 p. m.	1:05 p. m.	0.61	12:13 p. m.	12:26 p. m.	0.01	0 27	0.48	0.54											
Do	15	5:00 p. m.	5:46 p. m.	1.08	5:07 p. m.	5:46 p. m.	0.05	0.15	0.36	0.45	0.53	0.69	0.84	0.96	1.03	.....	.....	.....	.....	.....	.....
Do	18	1:20 p. m.	D. N.	1.31	1:37 p. m.	1:52 p. m.	0.04	0.23	0.55	0.68	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Winnemucca, Nev	14			0.05														0.04			
Wytheville, Va	3			0.48														0.42			
Yankton, S. Dak	5	8:15 p. m.	9:05 p. m.	0.67	8:22 p. m.	8:37 p. m.	0.01	0.27	0.53	0.64											
Do	8-9	10:20 p. m.	6:20 a. m.	1.78	12:34 a. m.	1:48 a. m.	0.28	0.10	0.19	0.40	0.52	0.54	0.70	0.85	0.93	0.99	1.06	1.15	1.28		
Do	27	5:25 p. m.	8:15 p. m.	0.53	6:48 p. m.	7:03 p. m.	0.01	0.06	0.34	0.51	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Yellowstone Park, Wyo	21			0.44														0.23			

TABLE III.—*Data furnished by the Canadian Meteorological Service, July, 1910.*

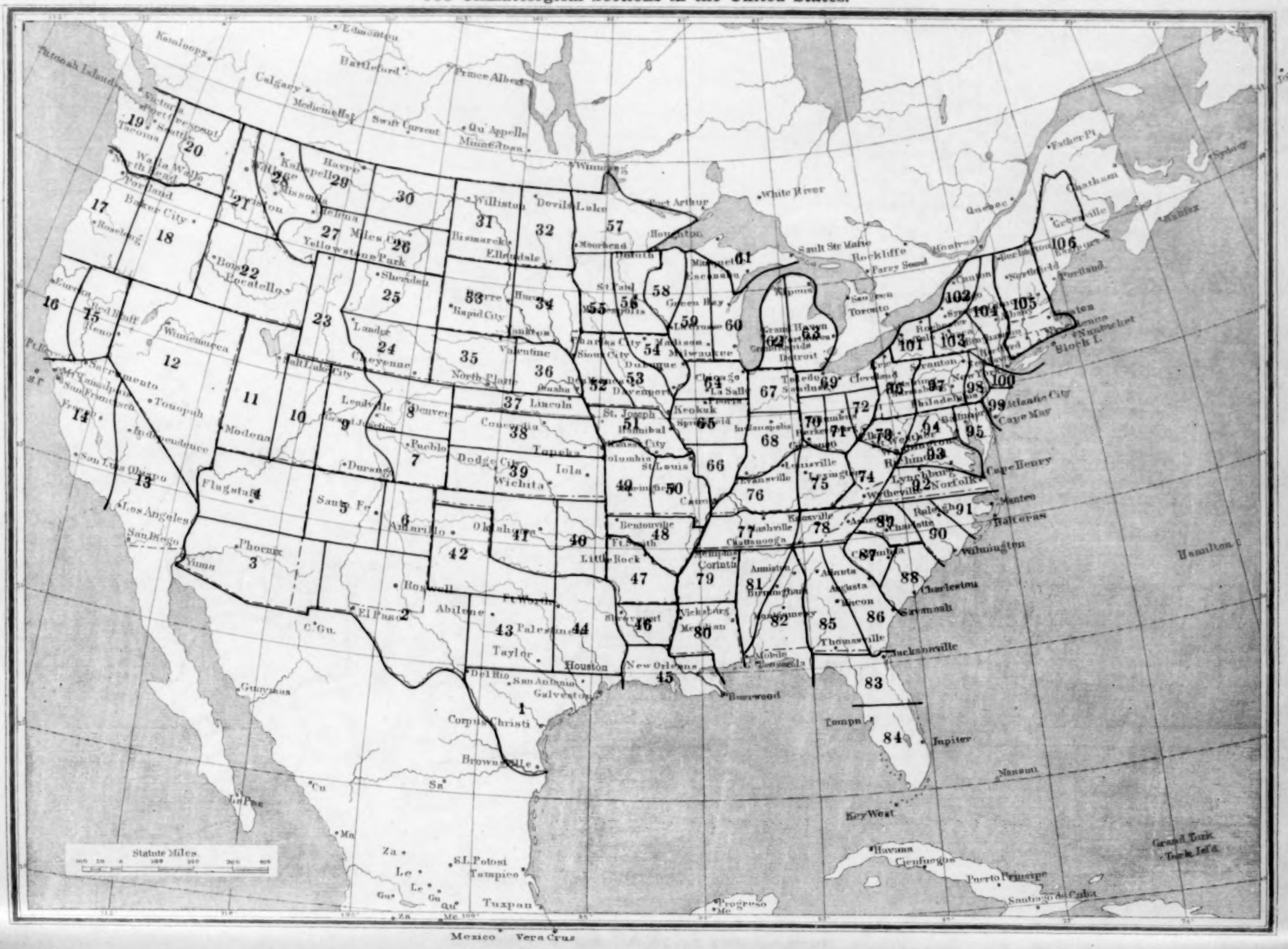
Stations.	Pressure.			Temperature.				Precipitation.			Stations.	Pressure.			Temperature.				Precipitation.		
	Actual, reduced to mean of 24 hours.	Sea level, reduced to mean of 24 hours.	Departure from normal.	Mean.	Departure from normal.	Mean maximum.	Mean minimum.	Total.	Departure from normal.	Total snowfall.		Actual, reduced to mean of 24 hours.	Sea level, reduced to mean of 24 hours.	Departure from normal.	Mean.	Departure from normal.	Mean maximum.	Mean minimum.	Total.	Departure from normal.	Total snowfall.
	Ins.	*Ins.*	*Ins.*	°	°	°	°	*Ins.*	*Ins.*	*Ins.*		*Ins.*	*Ins.*	*Ins.*	°	°	°	°	*Ins.*	*Ins.*	*Ins.*
St. Johns, N. F.	29.68	29.81	−.16	62.2	+ 2.9	70.7	53.7	3.89	0.00	.....	Parry Sound, Ont.	29.22	29.90	−.06	69.1	+ 3.1	80.8	57.4	1.74	−0.88	....
Sydney, C. B. I.	29.78	29.82	−.11	65.3	+ 3.0	74.1	56.5	3.82	+0.17	.....	Port Arthur, Ont.	29.19	29.90	−.04	64.2	+ 2.2	75.0	53.3	2.85	−0.63	....
Halifax, N. S.	29.78	29.88	−.08	66.4	+ 3.0	76.2	56.6	5.36	+1.31	.....	Winnipeg, Man.	29.07	29.88	−.05	68.7	+ 2.7	81.9	55.6	0.80	−2.28	....
Grand Manan, N. B.	29.82	29.87	−.06	62.6	+ 0.9	70.3	55.0	0.74	−2.26	.....	Minnedosa, Man.	28.10	29.88	−.05	66.0	+ 3.8	79.8	52.2	1.60	−1.00	....
Yarmouth, N. S.	29.82	29.89	−.06	61.7	+ 2.2	69.6	53.9	1.91	−1.71	.....	Qu' Appelle, Assin.	27.66	29.87	−.05	64.1	+ 0.6	75.7	52.5	0.50	−1.98	....
Charlottetown, P. E. I.	29.80	29.84	−.06	66.9	+ 2.8	74.8	59.1	3.27	−0.22	.....	Medicine Hat, Alberta.	27.62	29.84	−.06	70.7	+ 2.9	84.3	57.1	1.63	−0.46	....
Chatham, N. B.	29.80	29.82	−.06	66.6	+ 1.6	76.9	56.4	3.84	−0.35	.....	Swift Current, Sask.	27.38	29.90	−.01	66.2	− 0.3	80.5	52.0	1.76	−0.68	....
Father Point, Que.	29.74	29.76	−.09	58.0	+ 0.4	66.6	49.4	3.48	+0.44	.....	Calgary, Alberta.	26.39	29.85	−.05	62.2	+ 1.6	77.6	46.9	0.44	−2.24	....
Quebec, Que.	29.50	29.81	−.10	67.3	+ 1.8	77.4	57.3	5.06	+0.80	.....	Banff, Alberta	25.40	29.91	+.01	58.4	+ 1.8	74.4	42.4	0.46	−2.78	....
Montreal, Que.	29.64	29.84	−.09	70.4	+ 1.9	78.2	62.5	3.04	−1.25	.....	Edmonton, Alberta.	27.62	29.87	−.03	61.9	+ 1.3	74.7	49.1	2.25	−0.78	....
Stonecliffe, Ont *											Prince Albert, Sask.	28.28	29.81	−.10	64.1	+ 2.2	75.8	52.4	1.37	−0.68	....
Ottawa, Ont.	29.60	29.92	−.02	69.2	− 0.3	78.5	59.9	2.58	−0.89	.....	Battleford, Sask.	28.14	29.84	−.06	65.1	+ 0.4	78.7	51.4	0.96	−1.38	....
Kingston, Ont.	29.58	29.88	−.09	68.8	+ 0.6	76.7	60.8	3.49	+0.60	.....	Kamloops, B. C.	28.62	29.86	−.08	70.2	+ 1.7	84.6	55.7	0.29	−1.32	....
Toronto, Ont.	29.53	29.89	−.08	71.1	+ 3.1	82.4	59.8	3.90	+0.98	.....	Victoria, B. C.	29.94	30.03	−.02	51.3	+ 1.3	71.4	51.2	0.01	−0.39	....
White River, Ont.	28.57	29.86	−.08	60.8	+ 1.3	75.4	46.3	2.64	+0.84	.....	Barkerville, B. C.	25.72	30.00	+.09	52.0	− 3.1	63.1	40.9	2.96	−0.06	....
Port Stanley, Ont.	29.29	29.92	−.06	68.8	+ 1.0	78.4	59.2	4.37	+1.33	.....	Dawson, Yukon										....
Southampton, Ont.	29.36	.....	.....	66.2	+ 1.5	75.3	57.1	1.54	−0.44	.....	Hamilton, Bermuda.	30.06	30.22	+.08	78.4	− 0.3	83.4	73.4	1.18	−3.26	....

* Name changed from Rockliffe.

Climatological Districts of the United States.

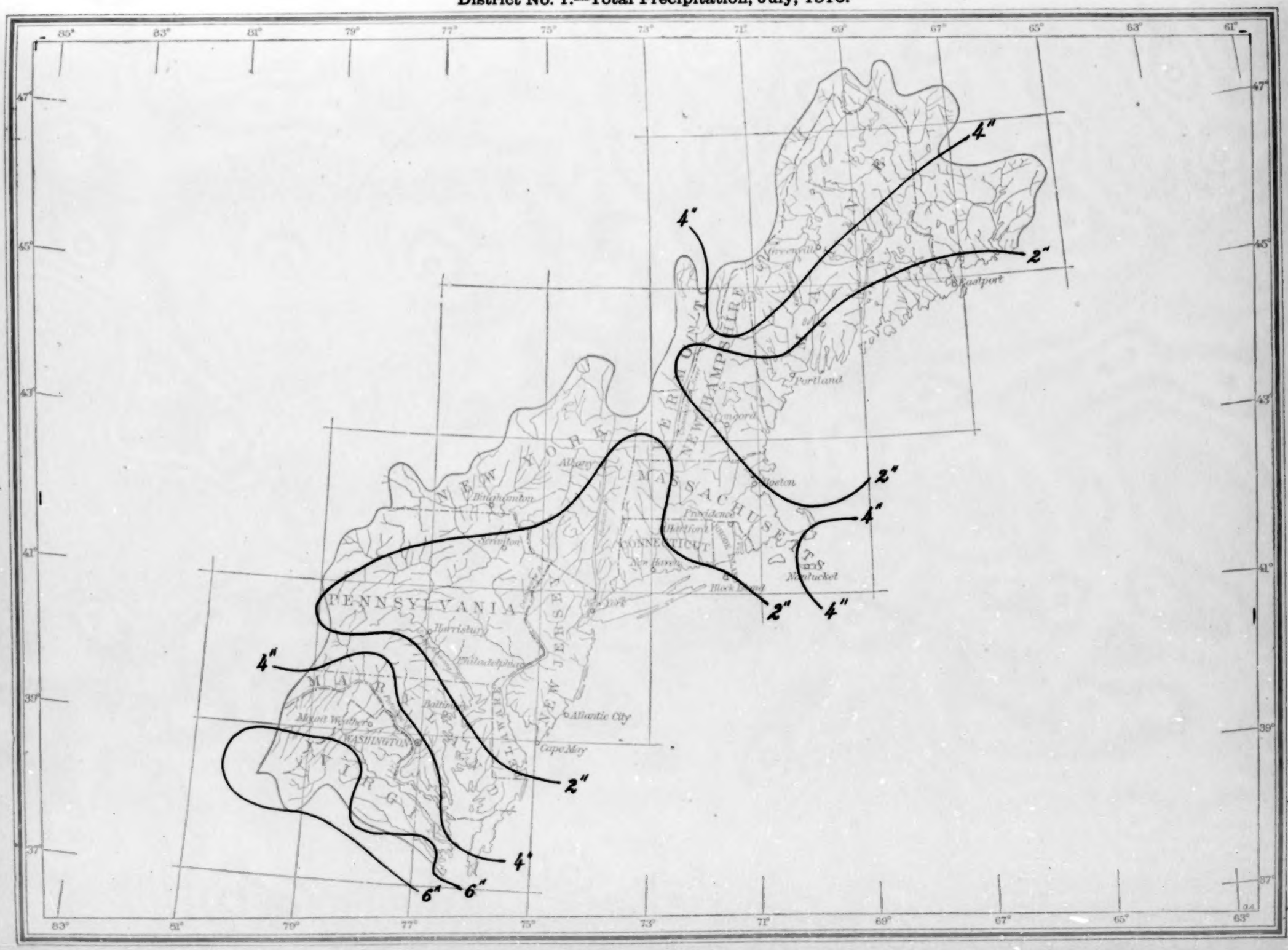
| | | |

106 Climatological Sections in the United States.

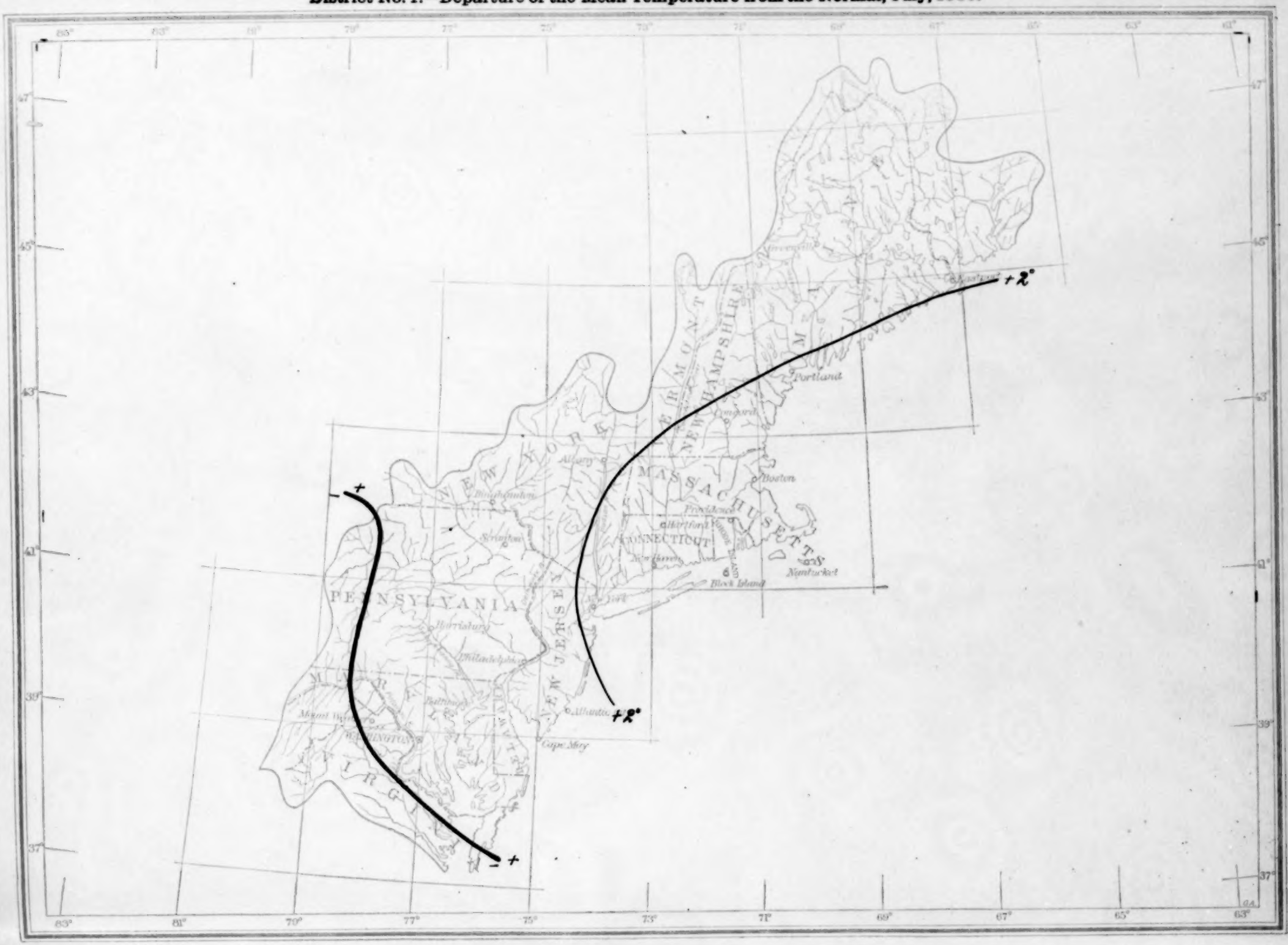


Mexico Vera Cruz

District No. 1.—Total Precipitation, July, 1910.

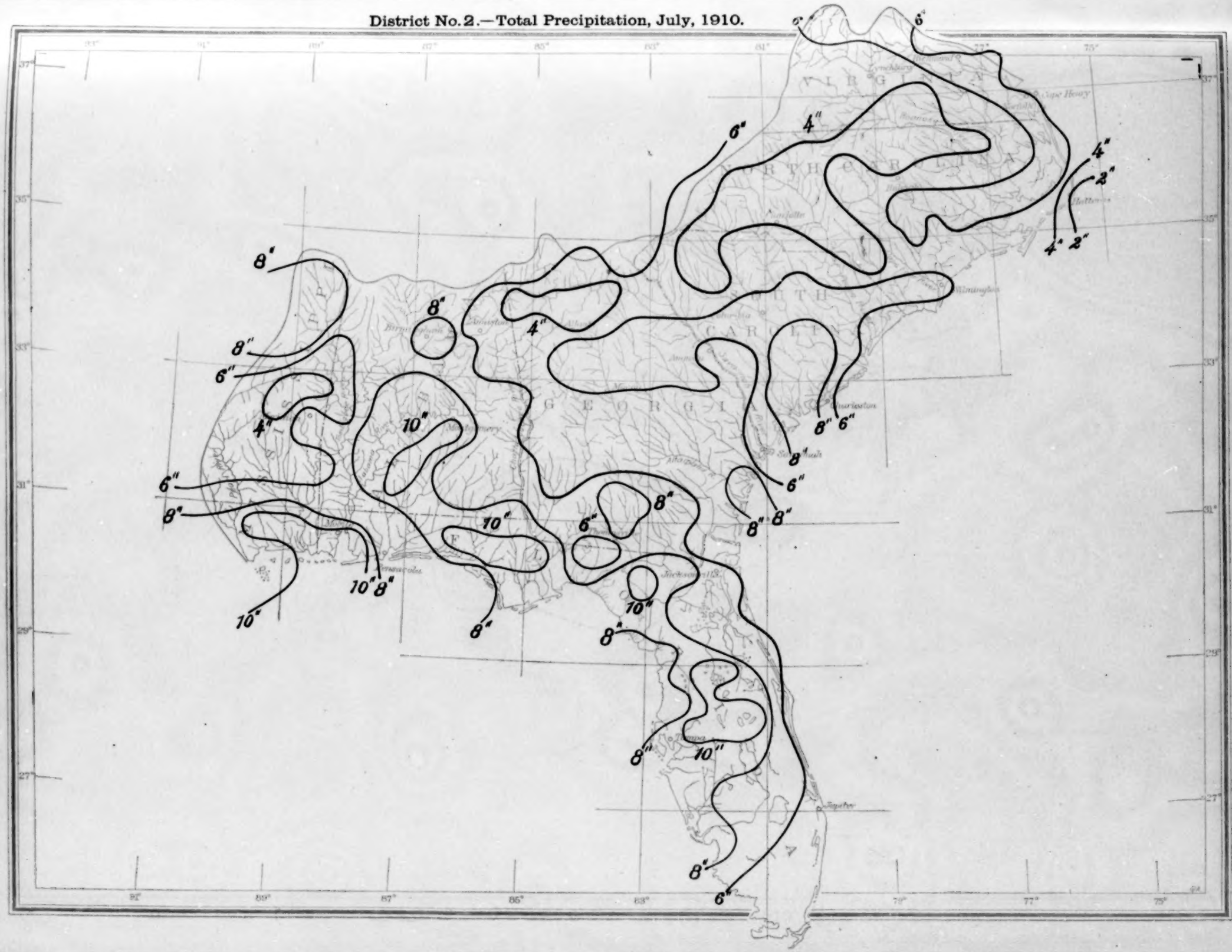


District No. 1.—Departure of the Mean Temperature from the Normal, July, 1910.

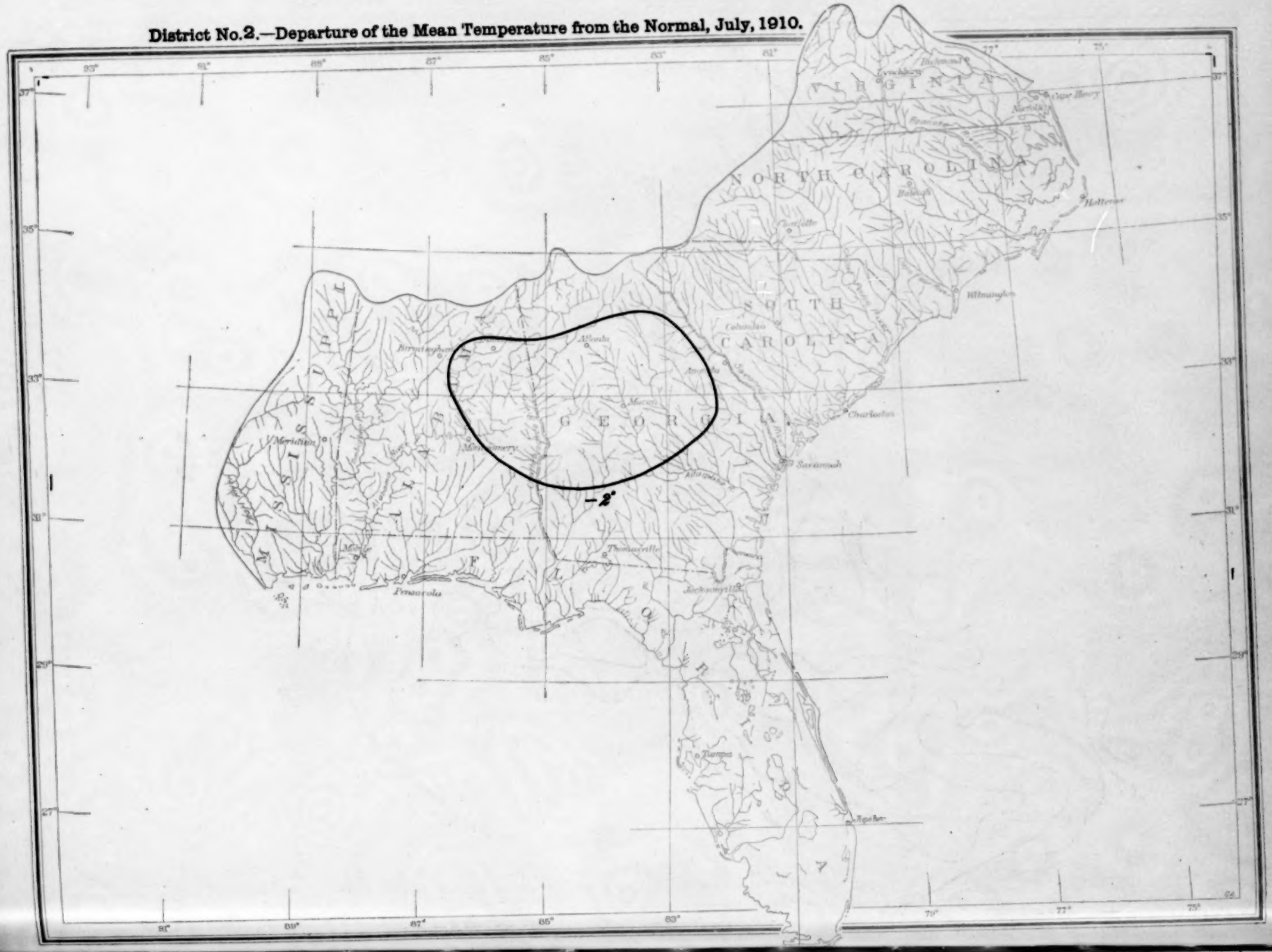


District No. 2.—Total Precipitation, July, 1910.

District No. 2.—Total Precipitation, July, 1910.



District No. 2.—Departure of the Mean Temperature from the Normal, July, 1910.



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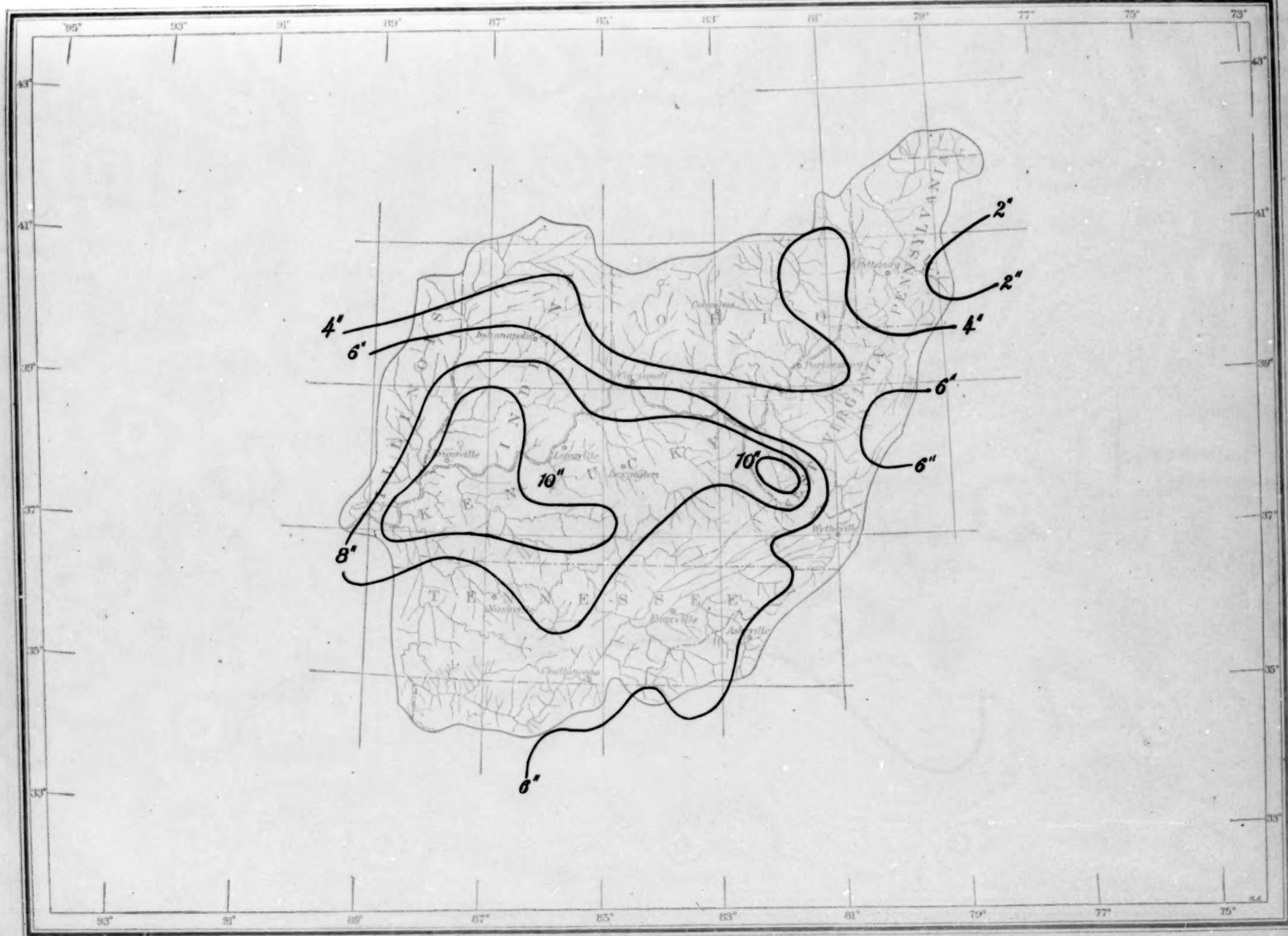
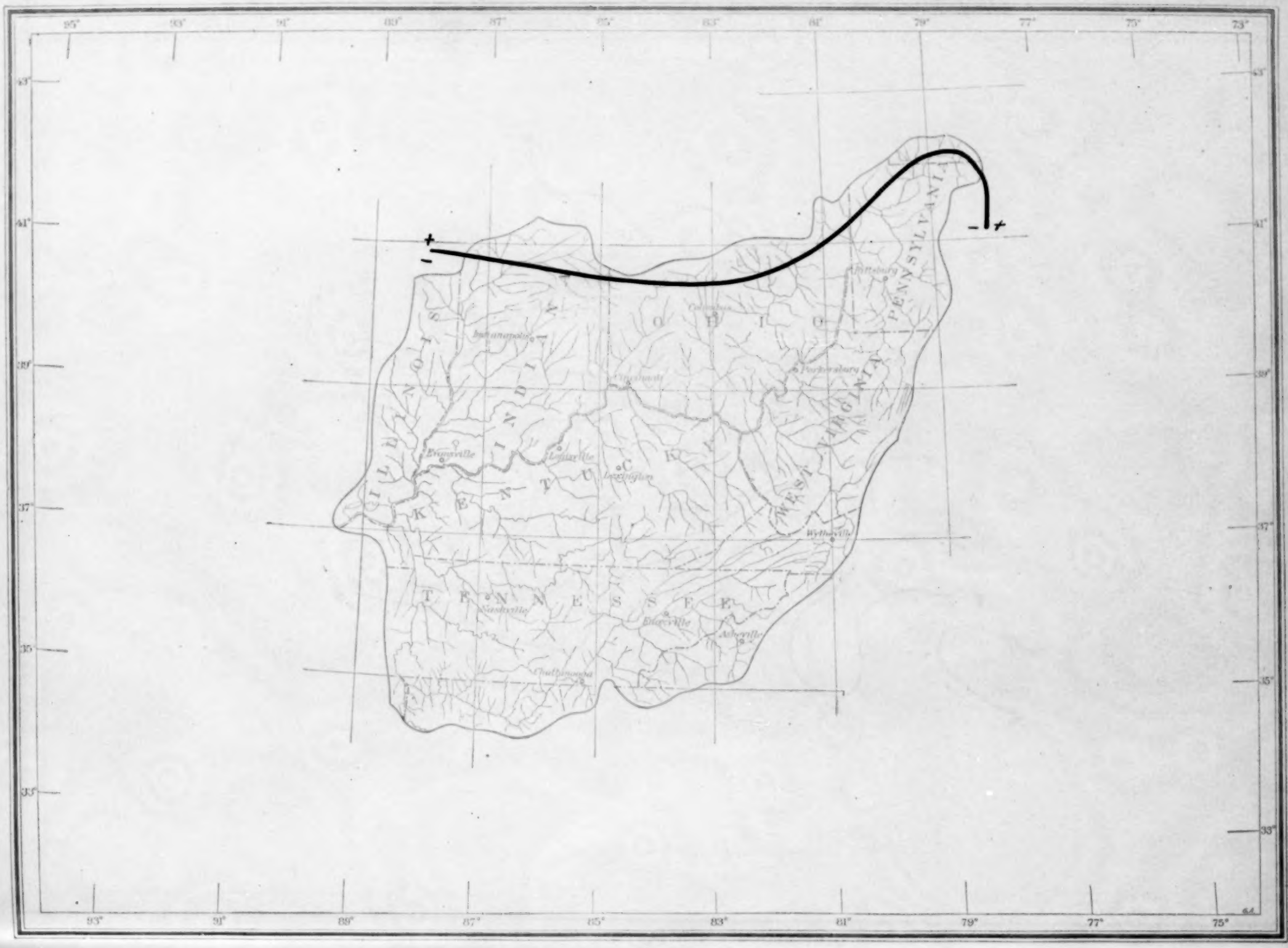


District No.3.—Departure of the Mean Temperature from the Normal, July, 1910.



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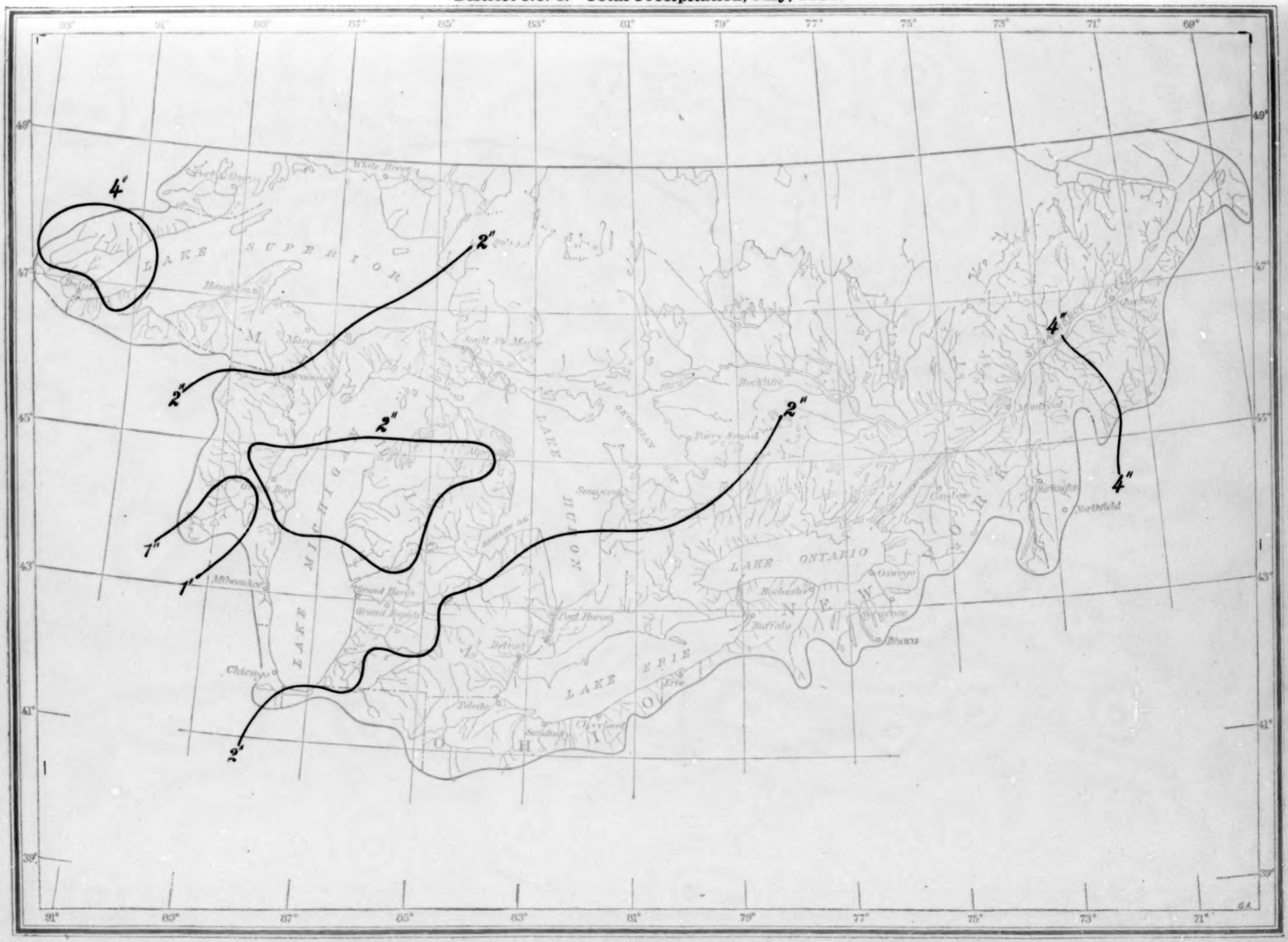
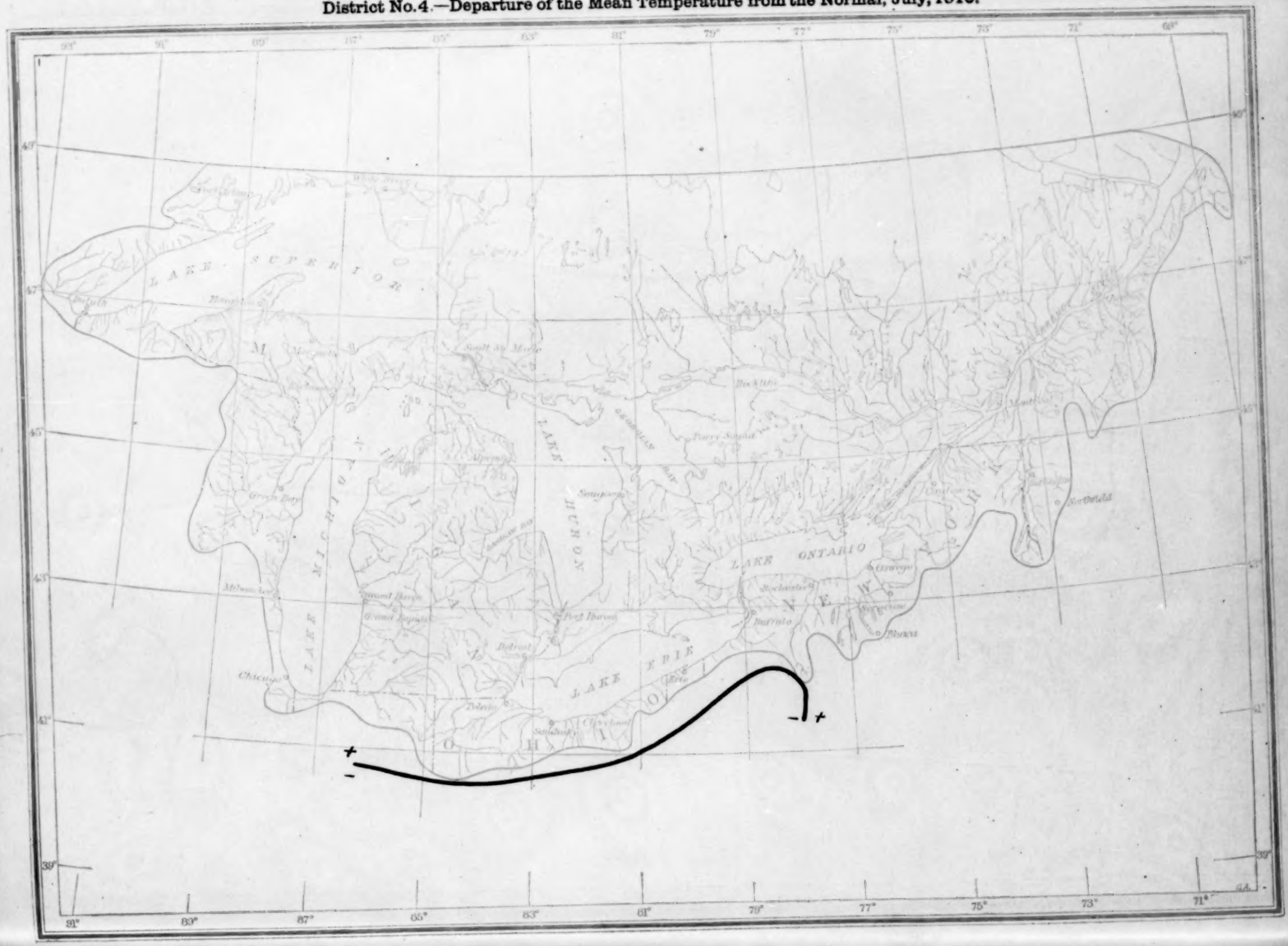


District No. 4.—Departure of the Mean Temperature from the Normal, July, 1910.



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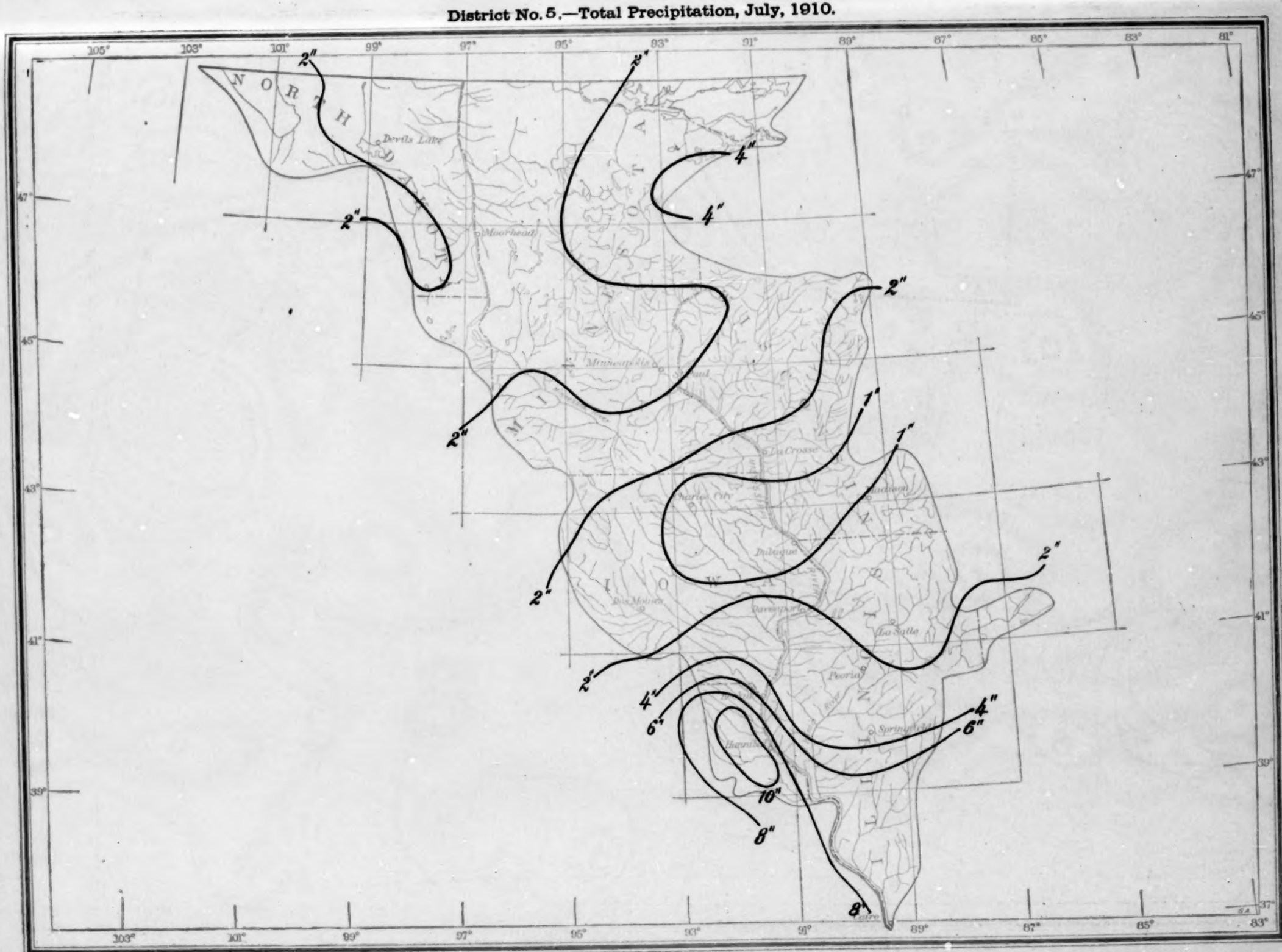

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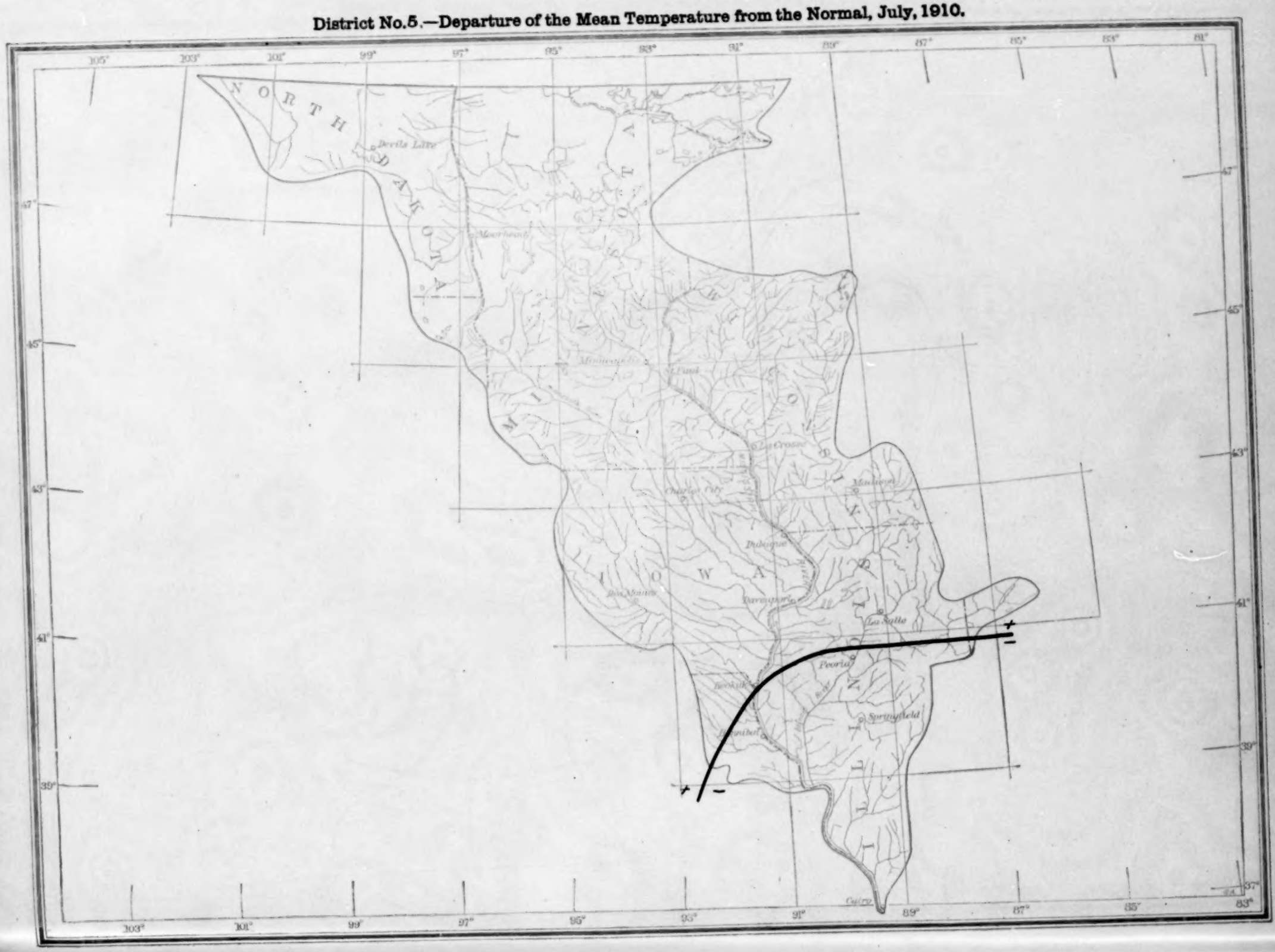

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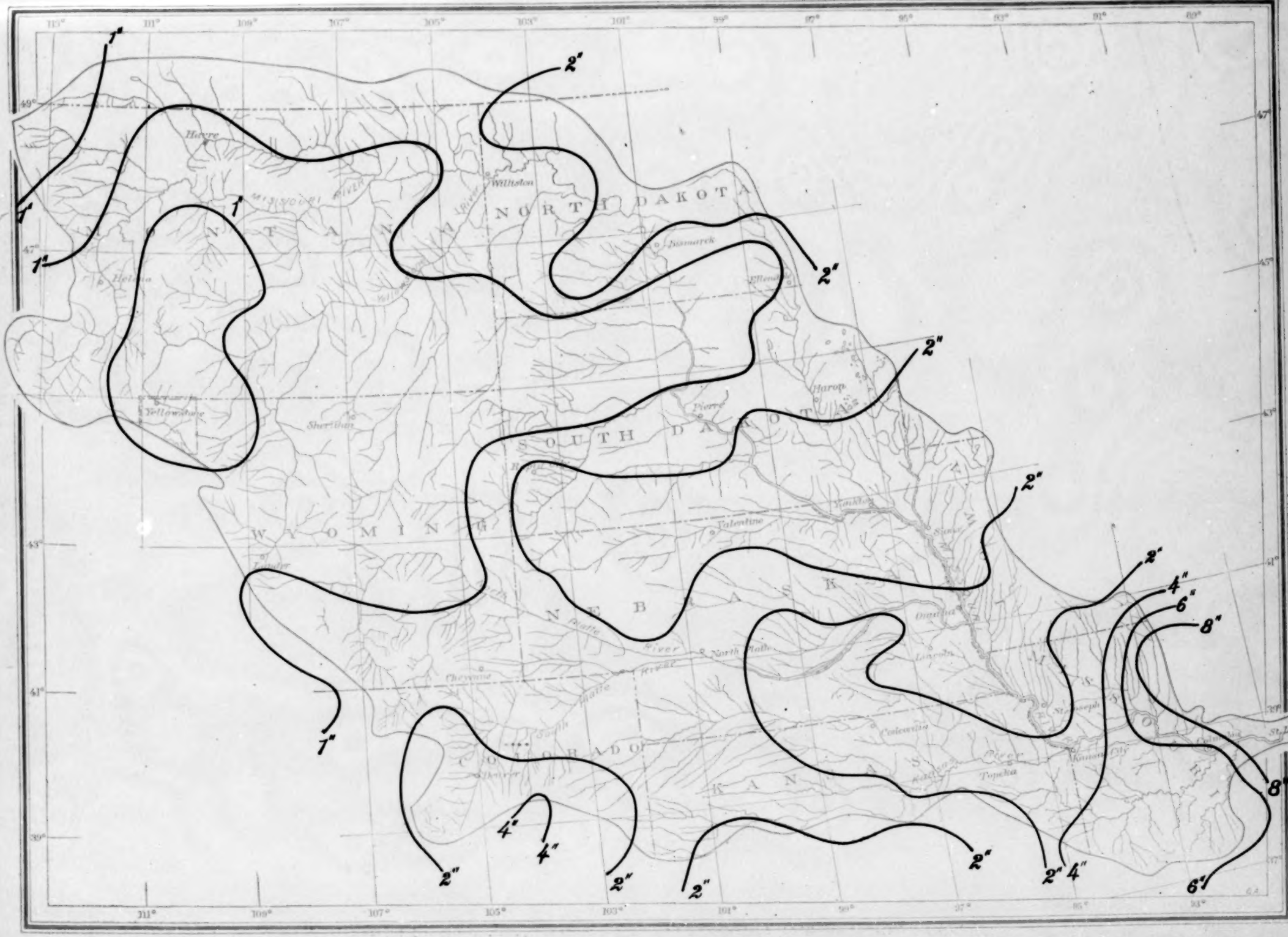
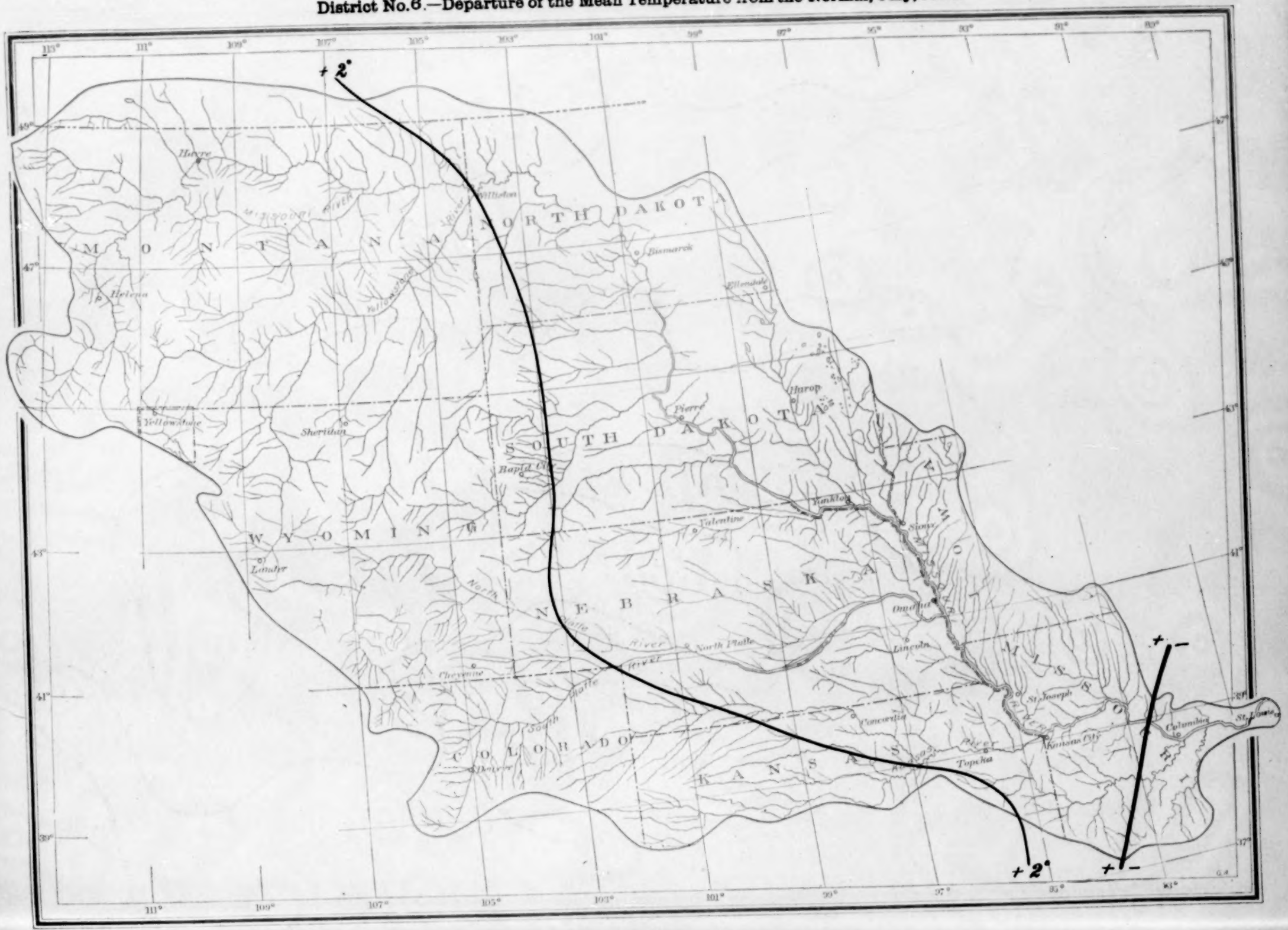


District No. 6.—Departure of the Mean Temperature from the Normal, July, 1910.



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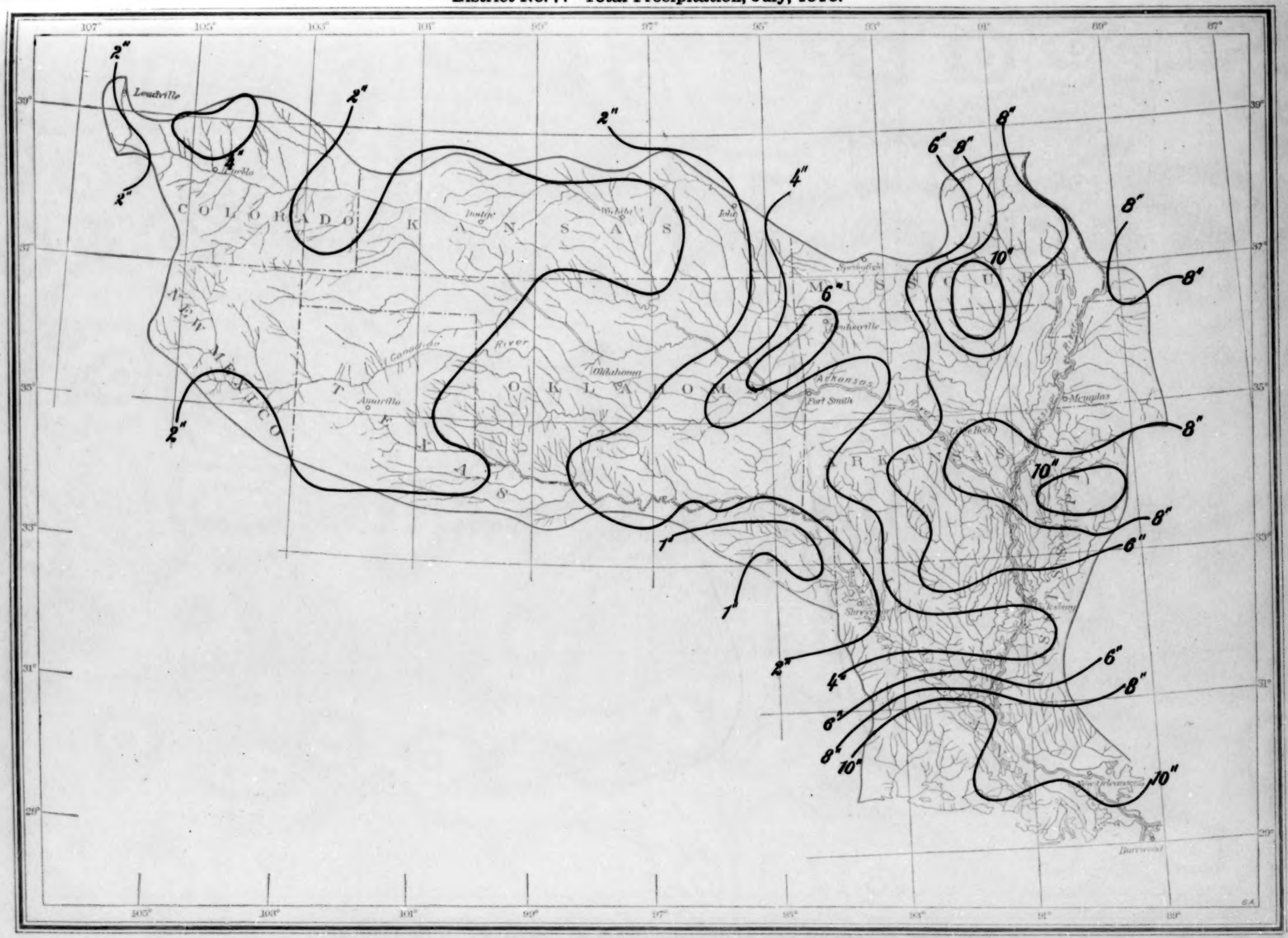
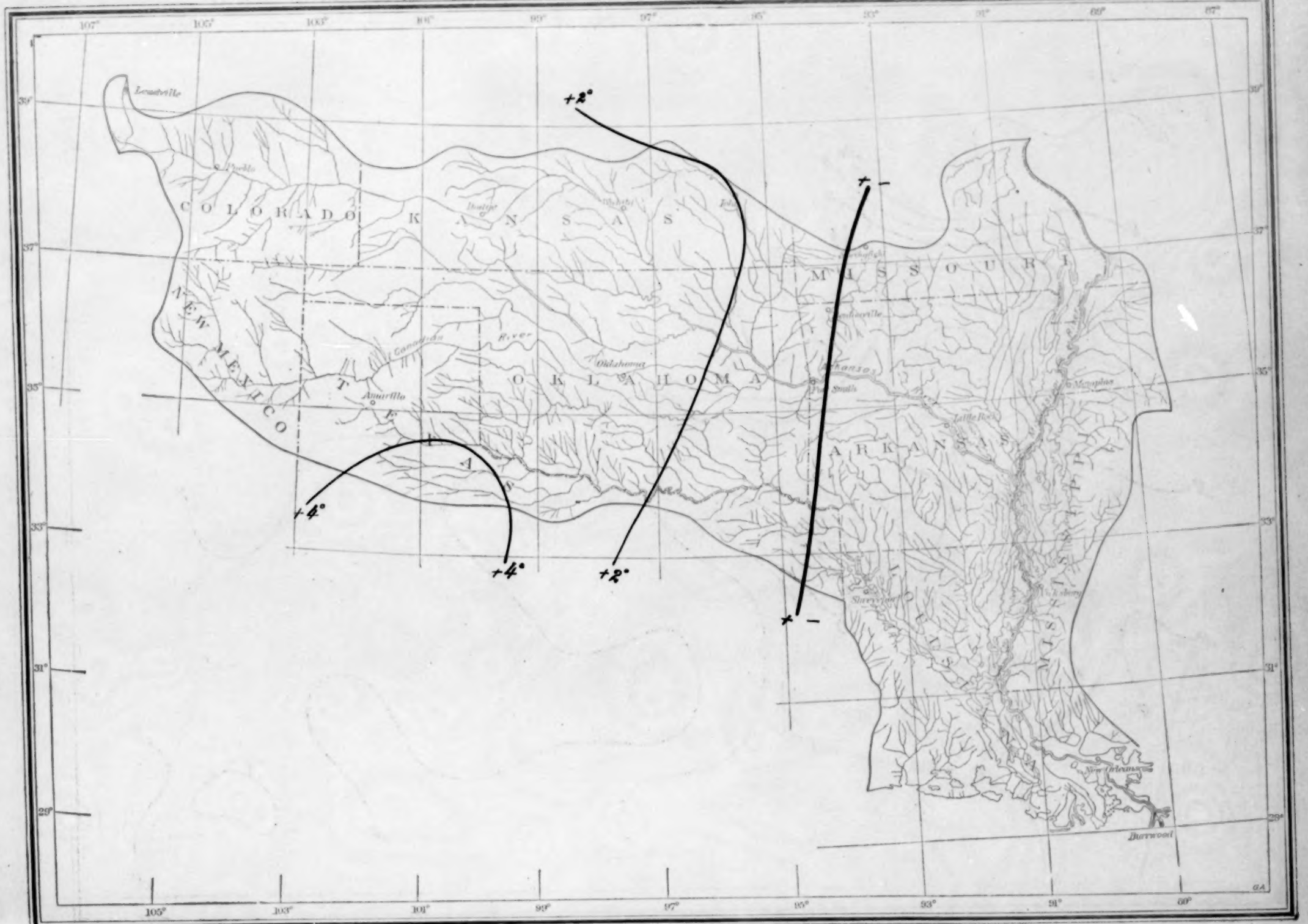
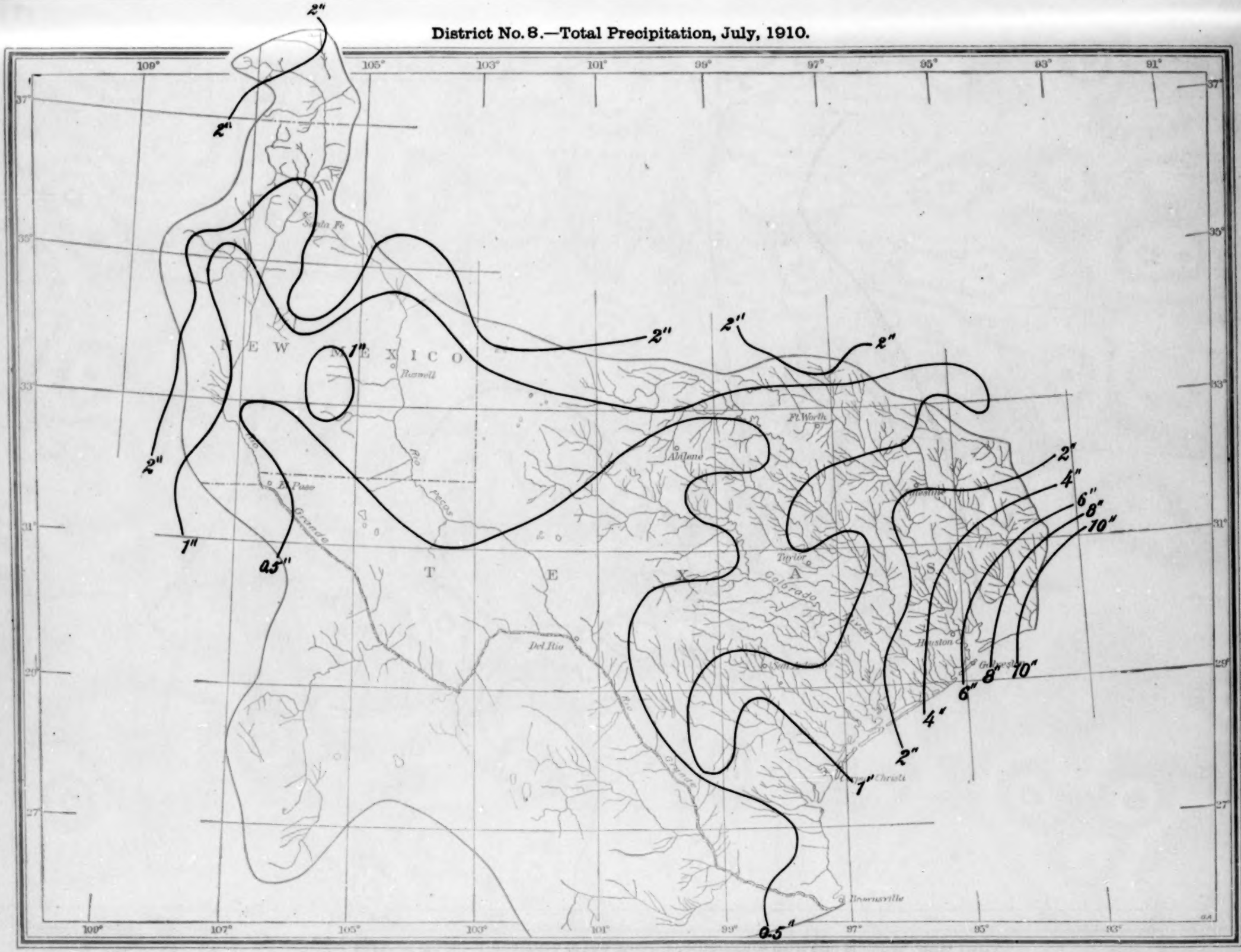


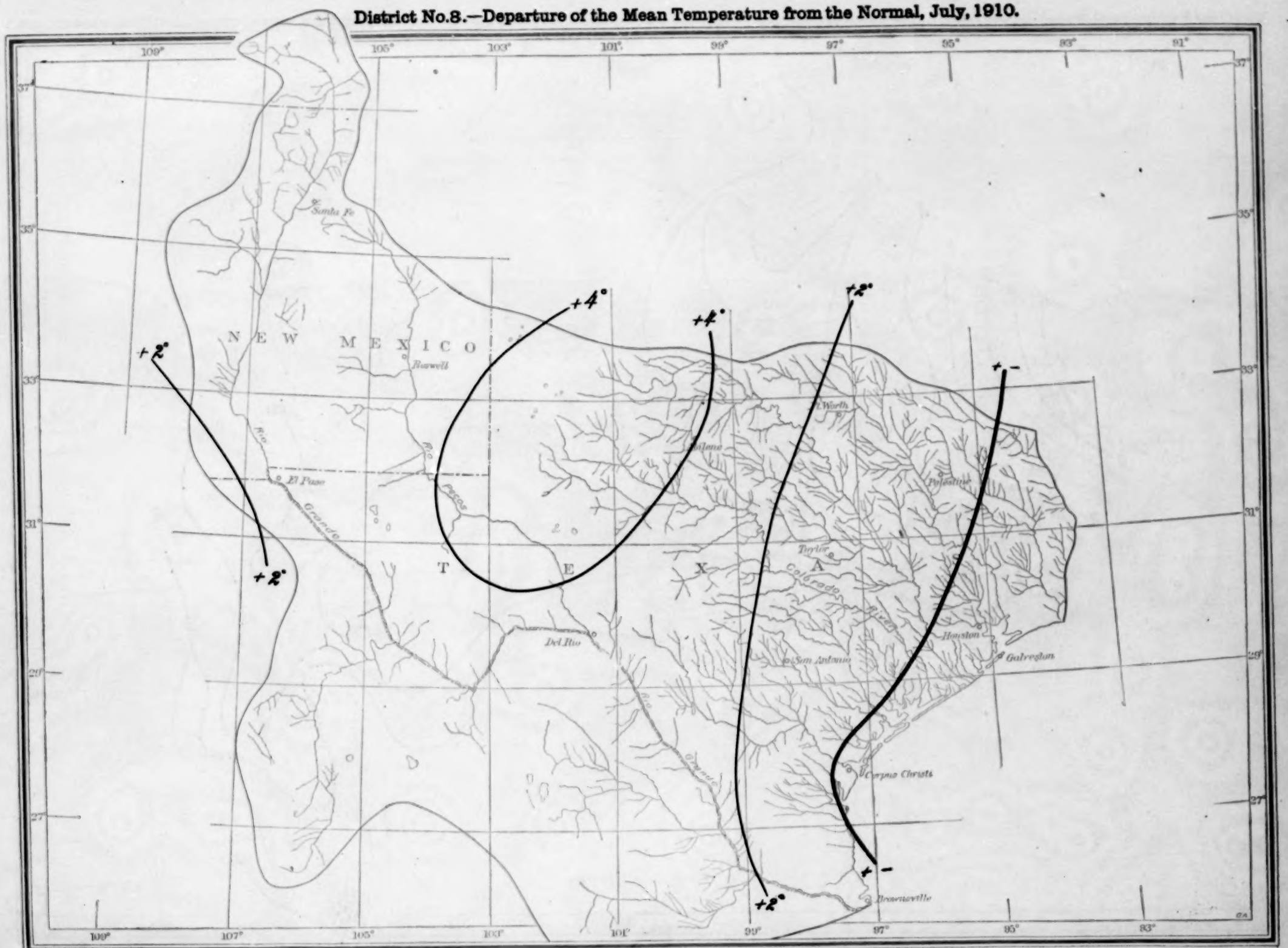
District No. 7.—Departure of the Mean Temperature from the Normal, July, 1910.



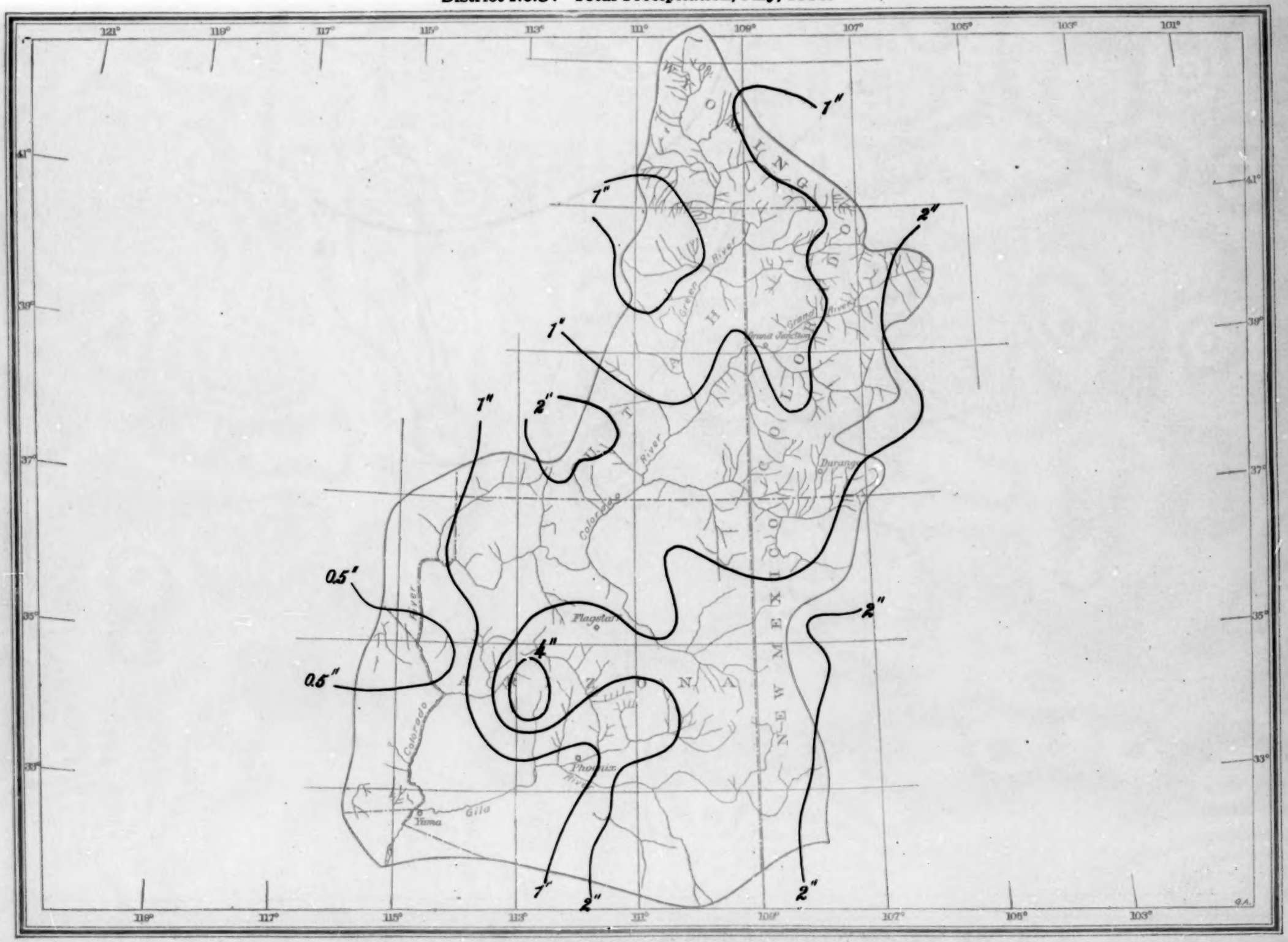
District No. 8.—Total Precipitation, July, 1910.



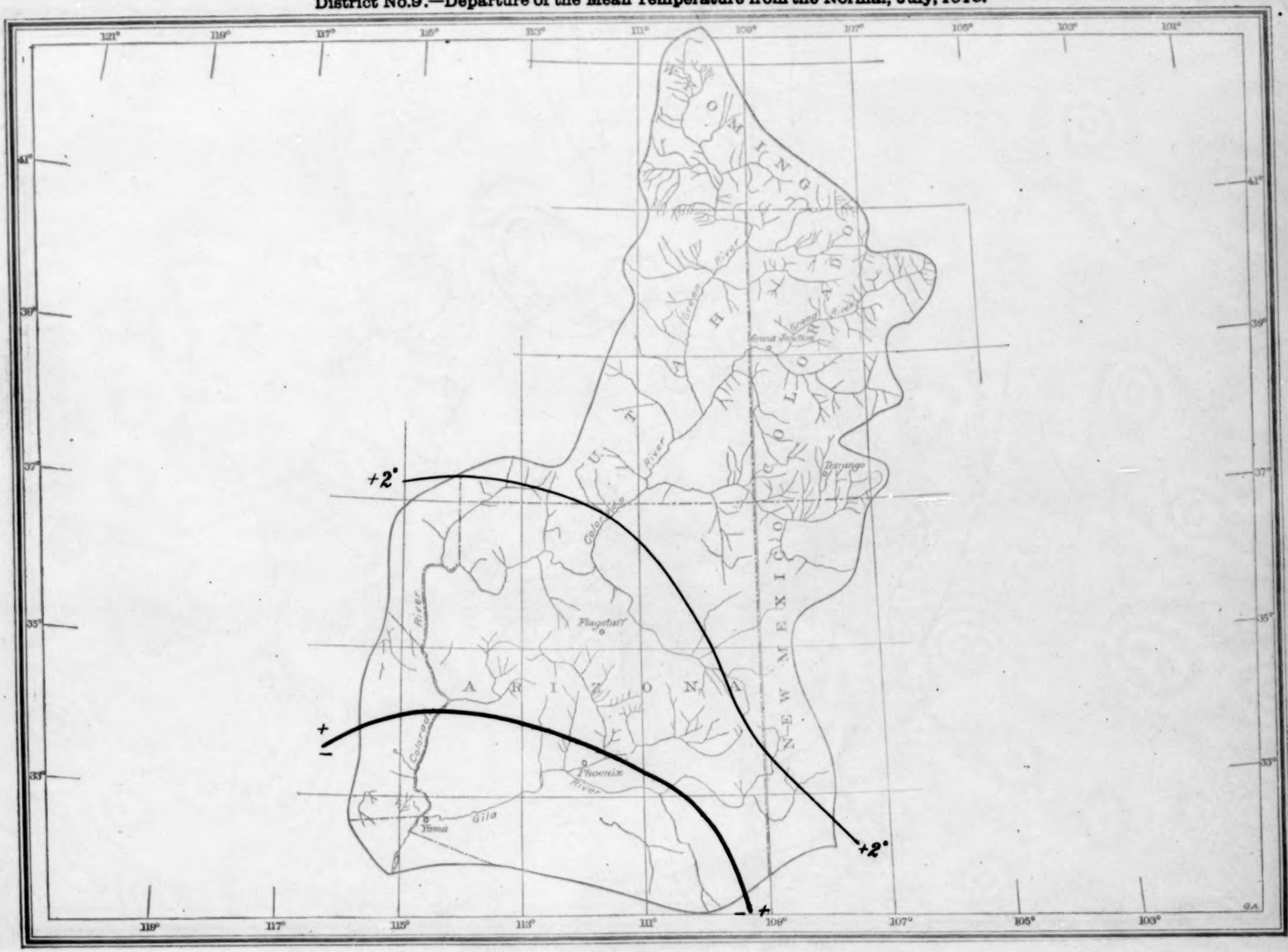
District No.8.—Departure of the Mean Temperature from the Normal, July, 1910.



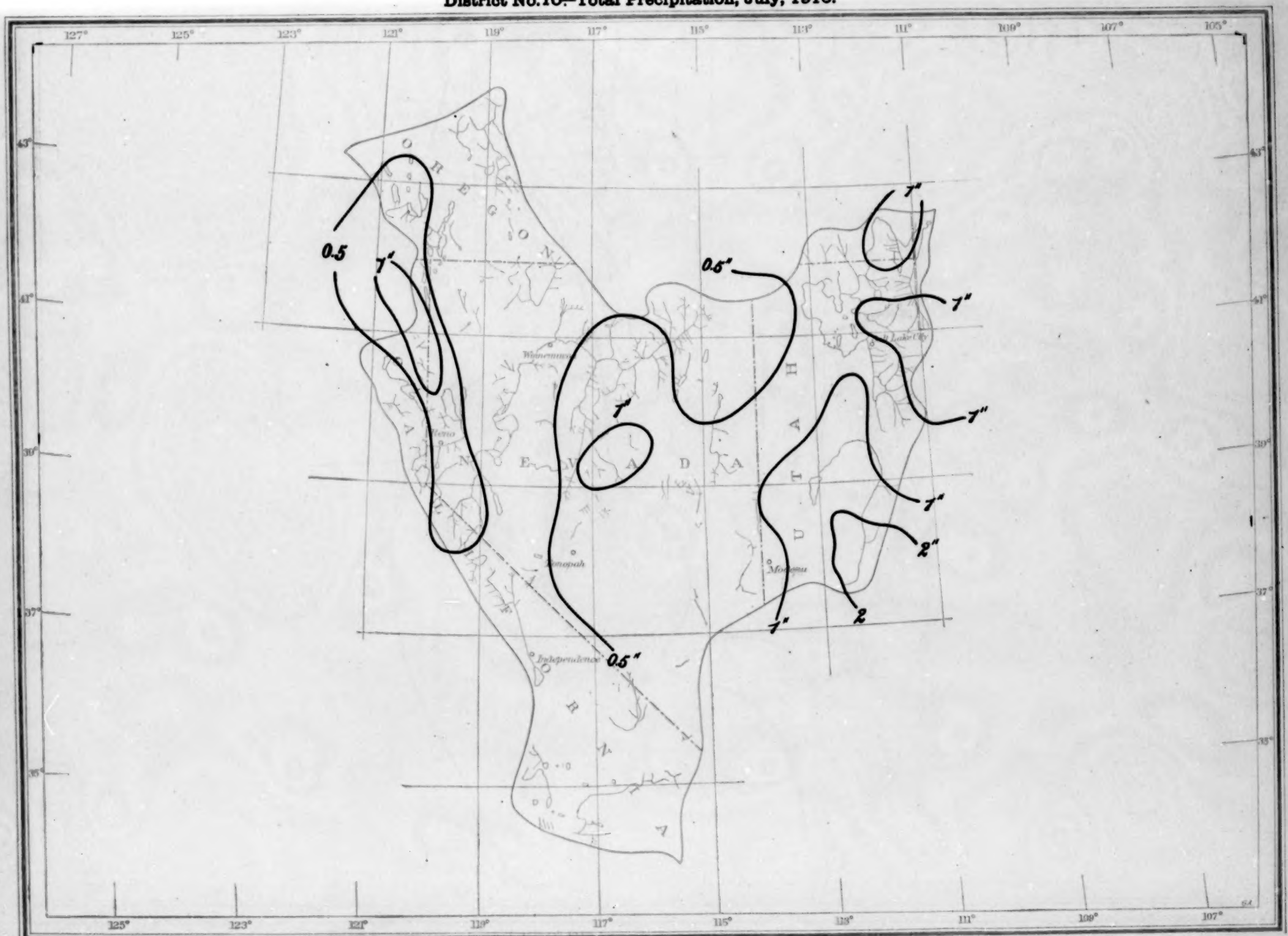
District No.9.—Total Precipitation, July, 1910.



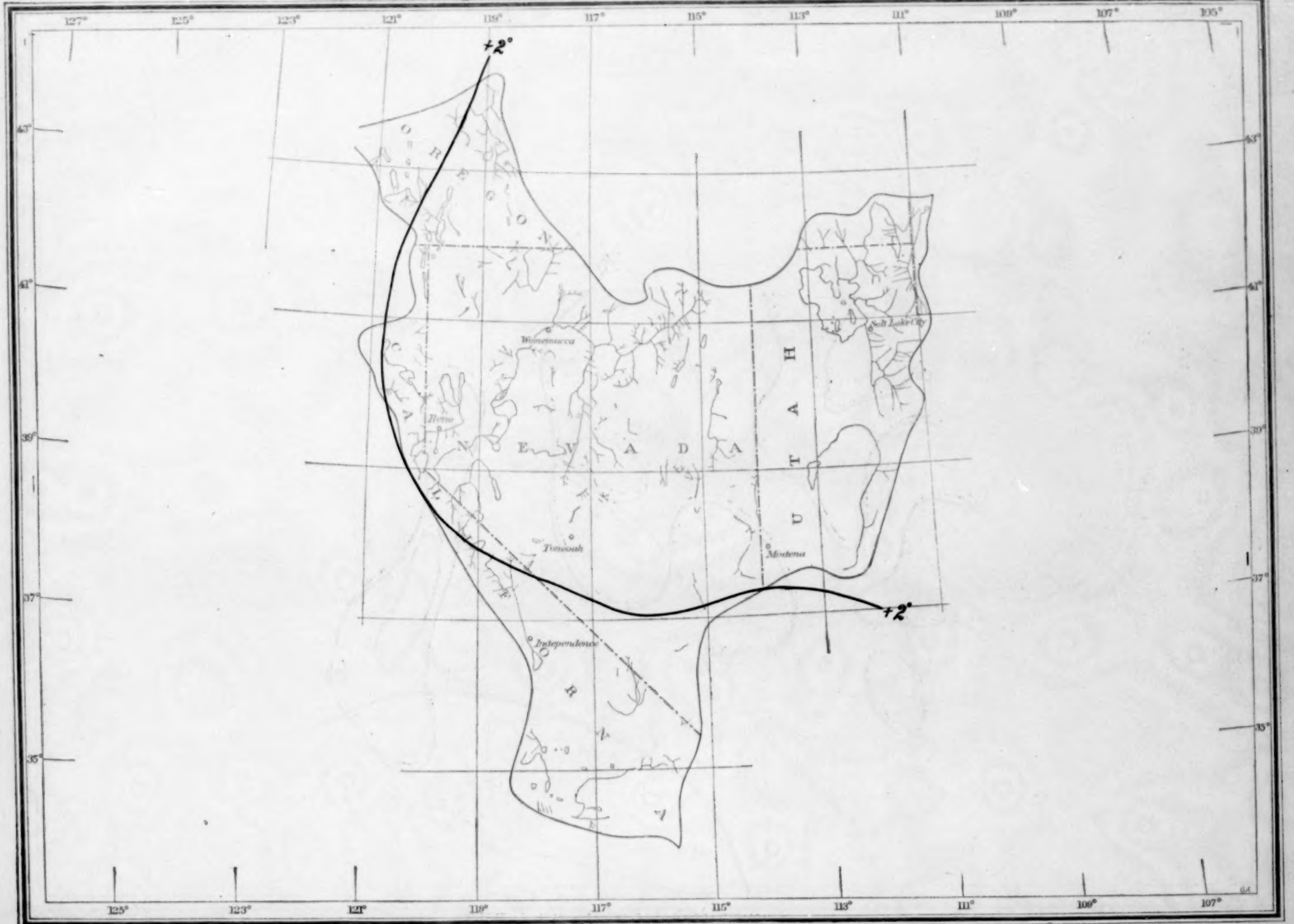
District No.9.—Departure of the Mean Temperature from the Normal, July, 1910.



District No. 10.—Total Precipitation, July, 1910.



District No.10.—Departure of the Mean Temperature from the Normal, July, 1910.



District No. 11.—Total Precipitation, July, 1910.

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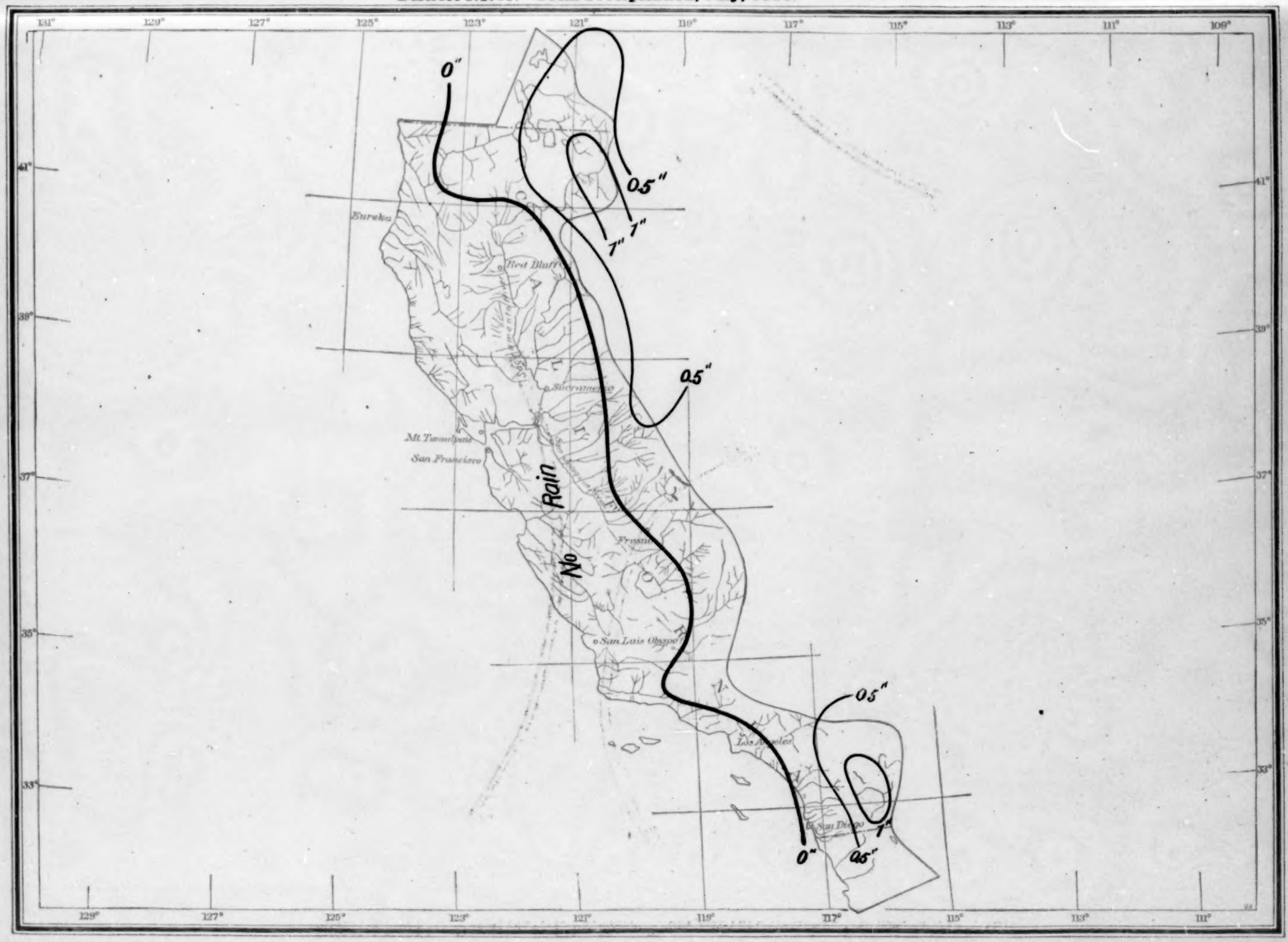

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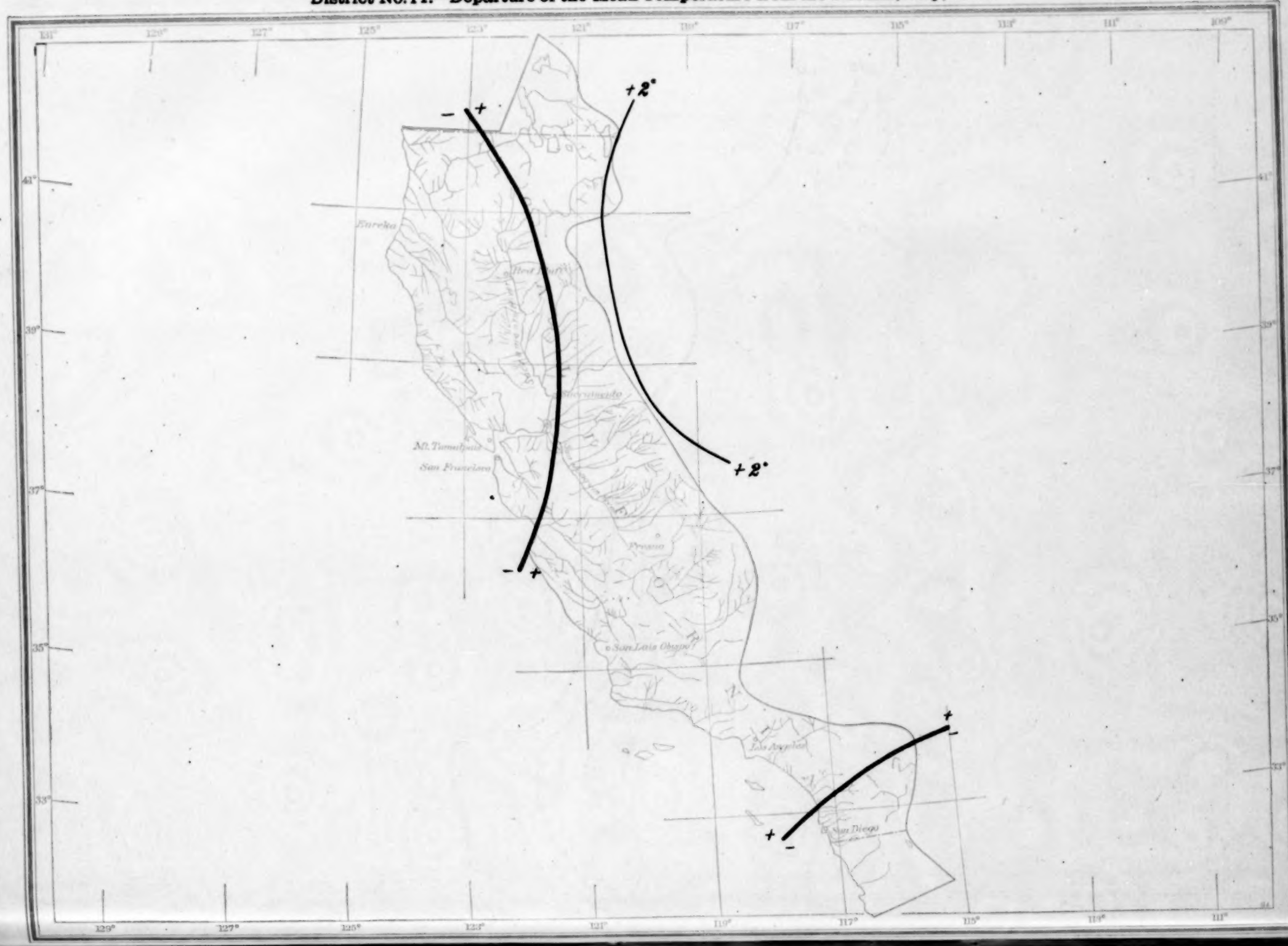

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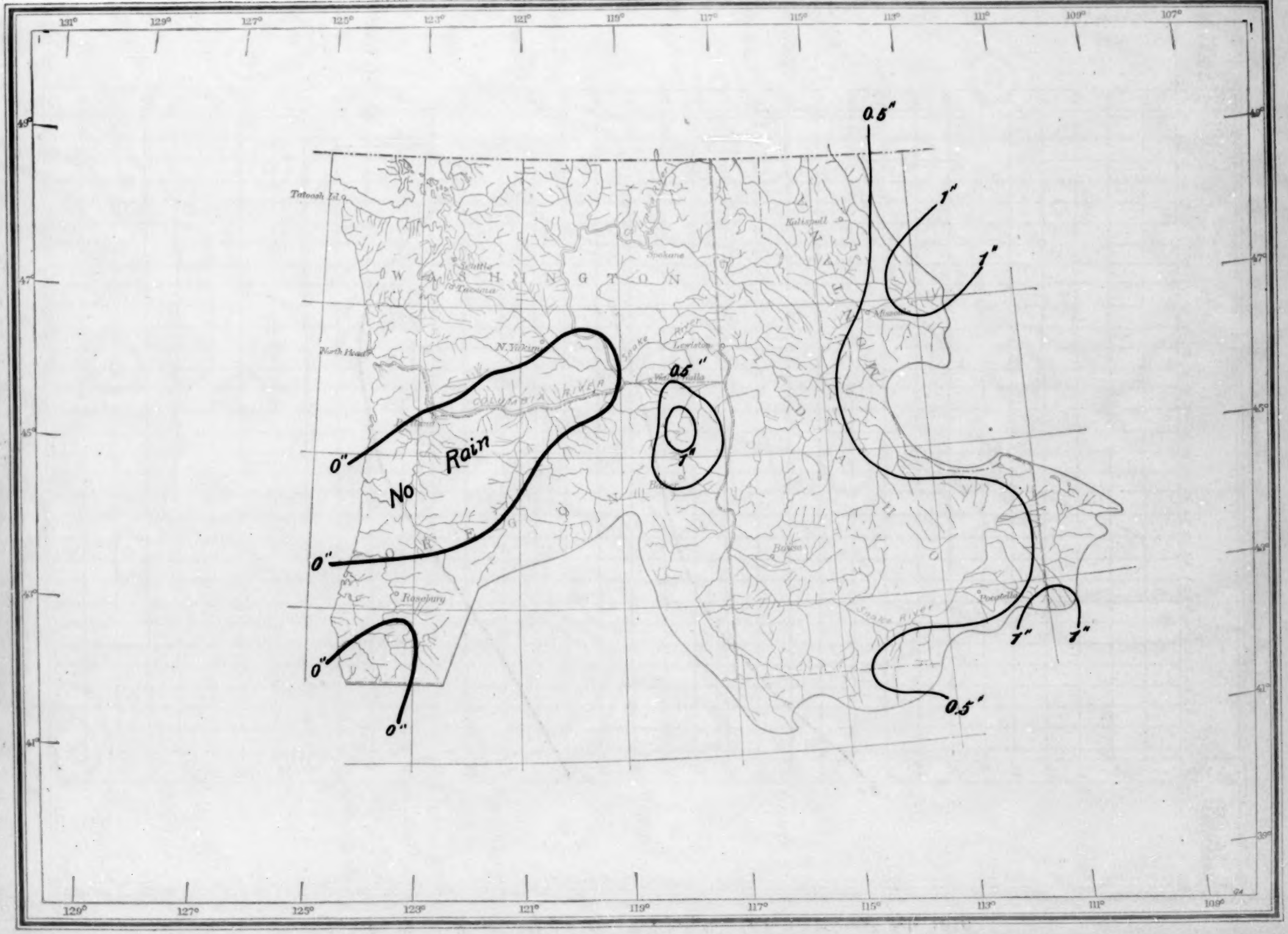

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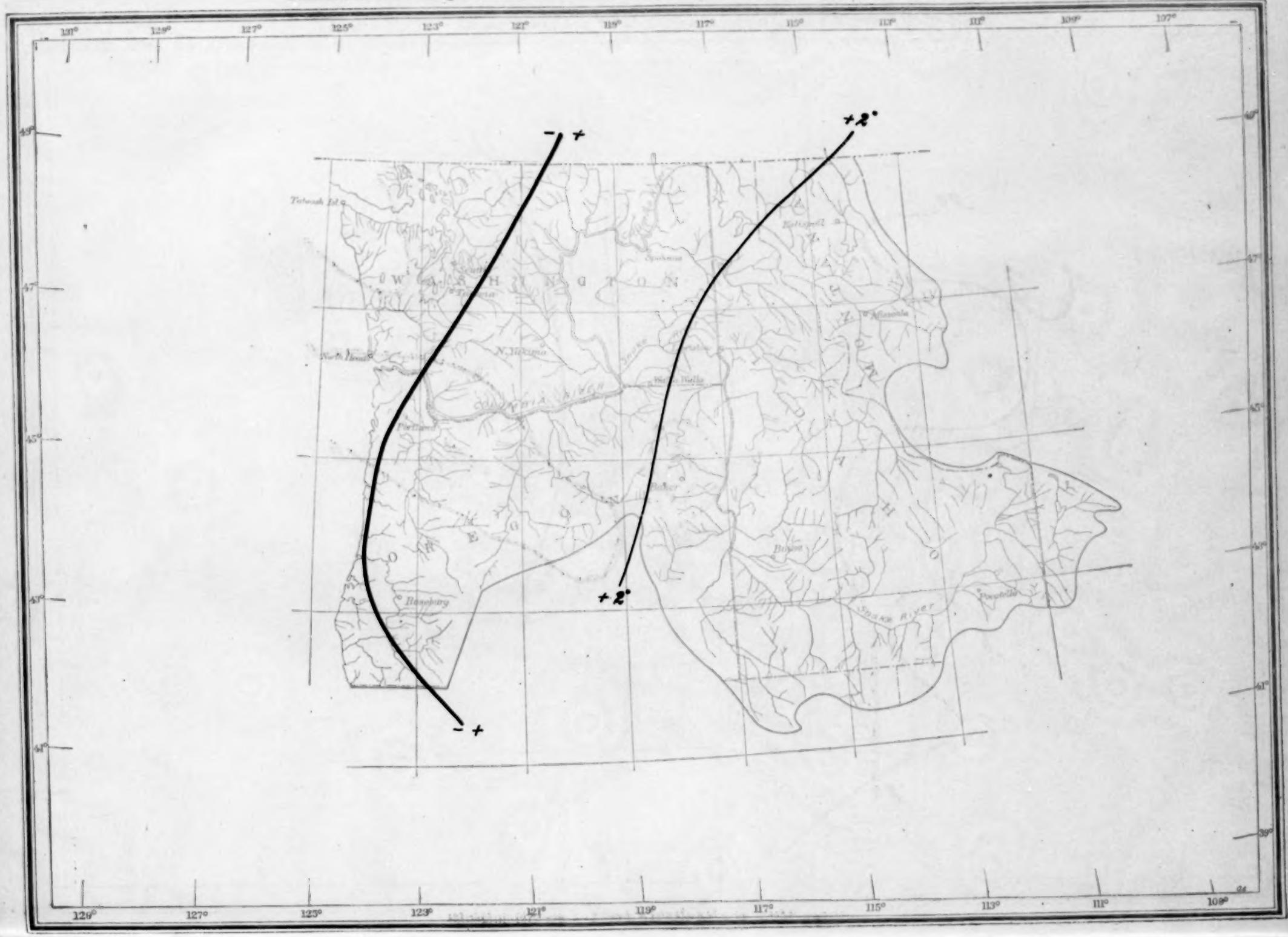


Chart I. Hydrographs of Several Principal Rivers, July, 1910.

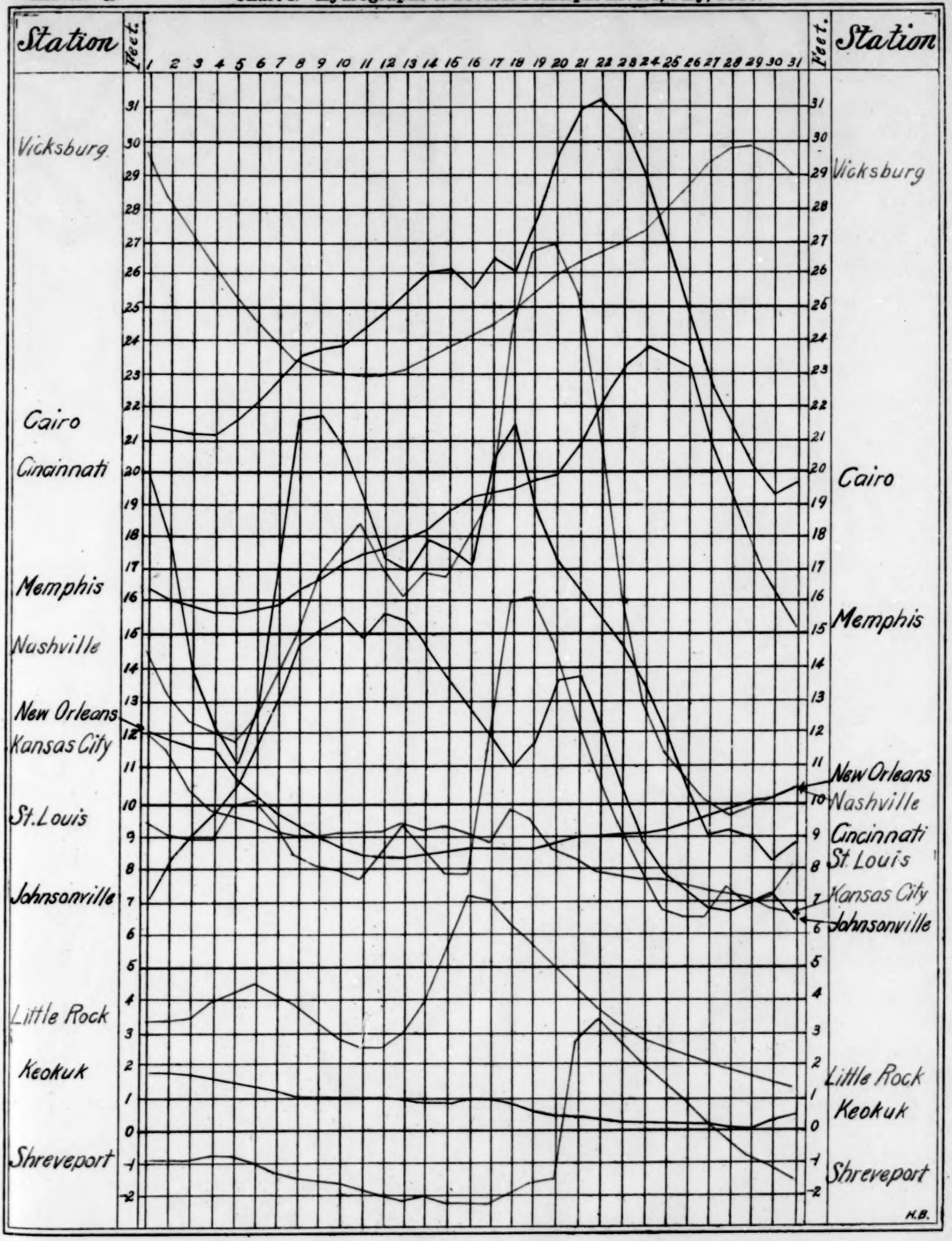


Chart II. Tracks of Centers of High Areas, July, 1910.

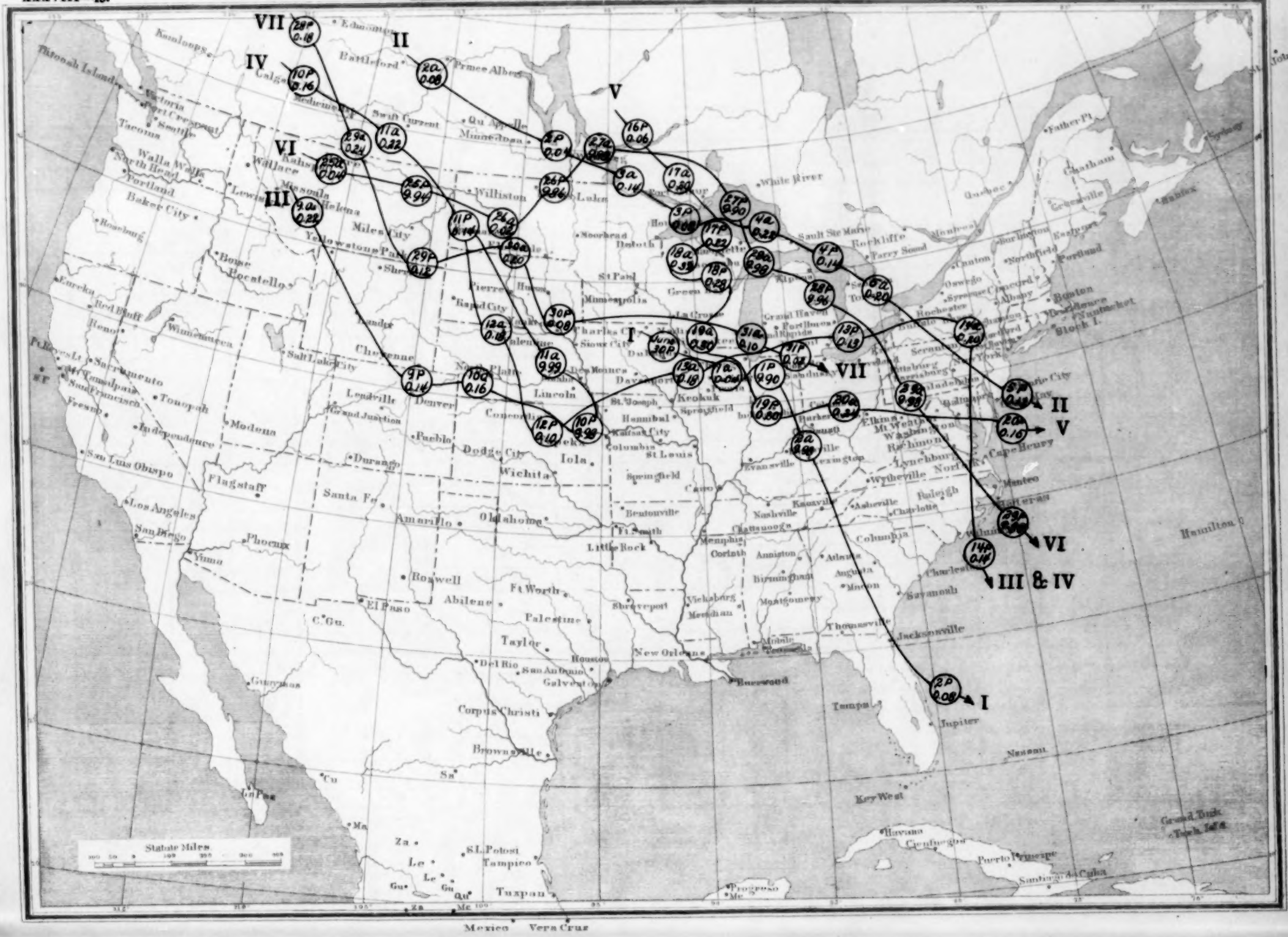
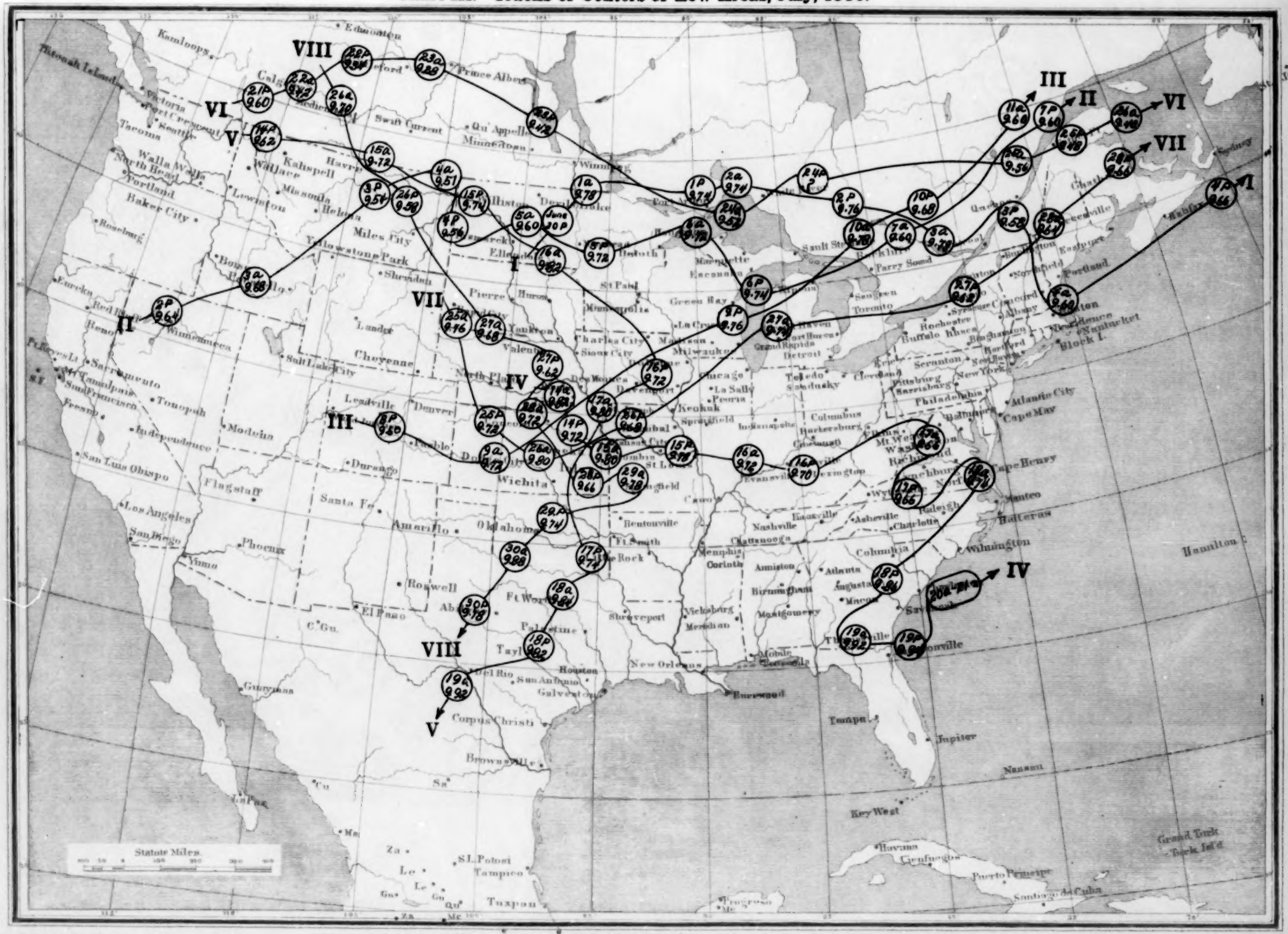


Chart III. Tracks of Centers of Low Areas, July, 1910.

Chart III. Tracks of Centers of Low Areas, July, 1910.


VIII
VI
V
II
III
IV
VII
I
Edmonton
Kamloops
Prince Albert
Swift Current
Qu'Appelle
Minnedosa
Winnipeg
Calgary
Victoria
Port Crescent
Seattle
Tacoma
Walla Walla
North Head
Portland
Baker City
Roseburg
Eureka
Red Bluff
Lewiston
Missoula
Helena
Kalispell
Wallace
Havre
Miles City
Yellowstone Park
Sheridan
Bismarck
Ellendale
Pierre
Huron
Aberdeen
Minneapolis
St Paul
Duluth
Marquette
Escanaba
Green Bay
Sault Ste Marie
Parry Sound
Sudbury
Toronto
Sarnia
Owen Sound
Collingwood
Orillia
Peterboro
Kingston
Ottawa
Montreal
Quebec
Chatham
Greenville
Rimouski
Fredericton
Portland
Boston
Providence
Nantucket
Block I.
Rochester
Buffalo
Niagara
Erie
Scranton
Binghamton
Hartford
New Haven
New York
Albany
Utica
Syracuse
Oswego
Cleveland
Toledo
Sandusky
Detroit
Grand Rapids
Port Huron
Milwaukee
Chicago
La Salle
Peoria
Rockford
Madison
Winona
La Crosse
Charles City
Sioux City
Yankton
Valentine
Rapid City
Devils Tower
Deadwood
Lander
Cheyenne
Salt Lake City
North Platte
Denver
Leadville
Pueblo
Durango
Wichita
Dodge City
Kansas City
Omaha
Des Moines
Davenport
Keokuk
Springfield
Indianapolis
Columbus
Zanesville
Cincinnati
Wheeling
Pittsburg
Harrisburg
Philadelphia
Baltimore
Atlantic City
Cape May
Washington
Richmond
Norfolk
Cape Henry
Hatteras
Wilmington
Hamilton
Santeo
Raleigh
Charlotte
Asheville
Knoxville
Nashville
Bowling Green
Louisville
Evansville
Lexington
Cairo
St Louis
Springfield
Jefferson City
Hannibal
Quincy
Burlington
Rock Island
Galena
Dubuque
Waterloo
Mason City
Fort Dodge
Estherville
Huron
Redfield
Aberdeen
Bismarck
Williston
Dickinson
Medicine Hat
Swift Current
Moose Jaw
Regina
Battleford
Prince Albert
Edmonton
Calgary
Banff
Kamloops
Fort Simpson
Athabasca Landing
Peace River
Dunvegan
Grande Prairie
Fort Vermilion
Fort Resolution
Fort Smith
Fort Chipewyan
Fort McMurray
Lesser Slave Lake
Athabasca
Edmonton
Battleford
Prince Albert
Qu'Appelle
Minnedosa
Winnipeg
Brandon
Moosomin
Estevan
Minot
Devils Lake
Grand Forks
Fargo
Jamestown
Bismarck
Mandan
Dickinson
Williston
Glasgow
Havre
Great Falls
Helena
Butte
Missoula
Kalispell
Wallace
Spokane
Walla Walla
Pendleton
The Dalles
Portland
Astoria
Salem
Albany
Eugene
Roseburg
Coos Bay
Crescent City
Red Bluff
Redding
Sacramento
Stockton
San Francisco
Fresno
Tonopah
Independence
Modesto
San Luis Obispo
Los Angeles
San Diego
Santa Barbara
Bakersfield
Flagstaff
Phoenix
Yuma
Needles
Las Vegas
Reno
Winnemucca
Elko
Ely
Pioche
Milford
Beaver
Cedar City
Salt Lake City
Ogden
Logan
Pocatello
Idaho Falls
Blackfoot
Malad City
Soda Springs
Montpelier
Evanston
Rock Springs
Green River
Rawlins
Laramie
Cheyenne
Sidney
North Platte
Grand Island
Hastings
Lincoln
Omaha
Council Bluffs
Nebraska City
Falls City
Beatrice
Fairbury
Hebron
Superior
Red Cloud
Franklin
Holdrege
McCook
Oberlin
Norton
Phillipsburg
Concordia
Clay Center
Manhattan
Topeka
Atchison
St Joseph
Kansas City
Lawrence
Ottawa
Emporia
Burlington
Iola
Fort Scott
Parsons
Coffeyville
Independence
Chanute
Neosho Falls
Eureka
Wichita
Arkansas City
Winfield
Hutchinson
Salina
Abilene
Concordia
Belleville
Clay Center
Manhattan
Junction City
Fort Riley
Marysville
Seneca
Hiawatha
Horton
Effingham
Troy
Leavenworth
Lexington
Sedalia
Jefferson City
Columbia
Boonville
Fulton
Warrenton
St Louis
Hannibal
Quincy
Macomb
Galesburg
Peoria
Bloomington
Springfield
Decatur
Effingham
Mattoon
Terre Haute
Indianapolis
Lafayette
Logansport
Peru
Fort Wayne
Kendallville
Angola
Toledo
Sandusky
Cleveland
Akron
Youngstown
Erie
Buffalo
Rochester
Syracuse
Oswego
Watertown
Ogdensburg
Malone
Plattsburg
Burlington
Rutland
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Keene
Concord
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Nashua
Lowell
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Bangor
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Fredericton
Chatham
Moncton
Amherst
Halifax
Sydney
Yarmouth
Liverpool
Lunenburg
Shelburne
Digby
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Windsor
Truro
Pictou
Charlottetown
Summerside
Prince Edward Island
Cape Breton
Newfoundland
St John's
Hamilton
Bermuda
Nassau
Jupiter
Tampa
Key West
Havana
Cienfuegos
Puerto Principe
Santiago de Cuba
Jamaica
Kingston
Port Antonio
Montego Bay
Savanna la Mar
Black River
Port Royal
Morant Bay
Port Maria
Ocho Rios
Falmouth
Lucea
Negril Point
Grand Turk
Turks Island
Inagua
Haiti
Port au Prince
Gonaives
Cape Haitien
Fort Liberte
Puerto Plata
Monte Cristi
Santo Domingo
Barahona
Azua
Jacmel
Aux Cayes
Jeremie
Miragoane
Gonaives
Saint Marc
Port au Prince
Leogane
Petit Goave

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Chart IV. Departure of the Mean Temperature from the Normal, July, 1910.

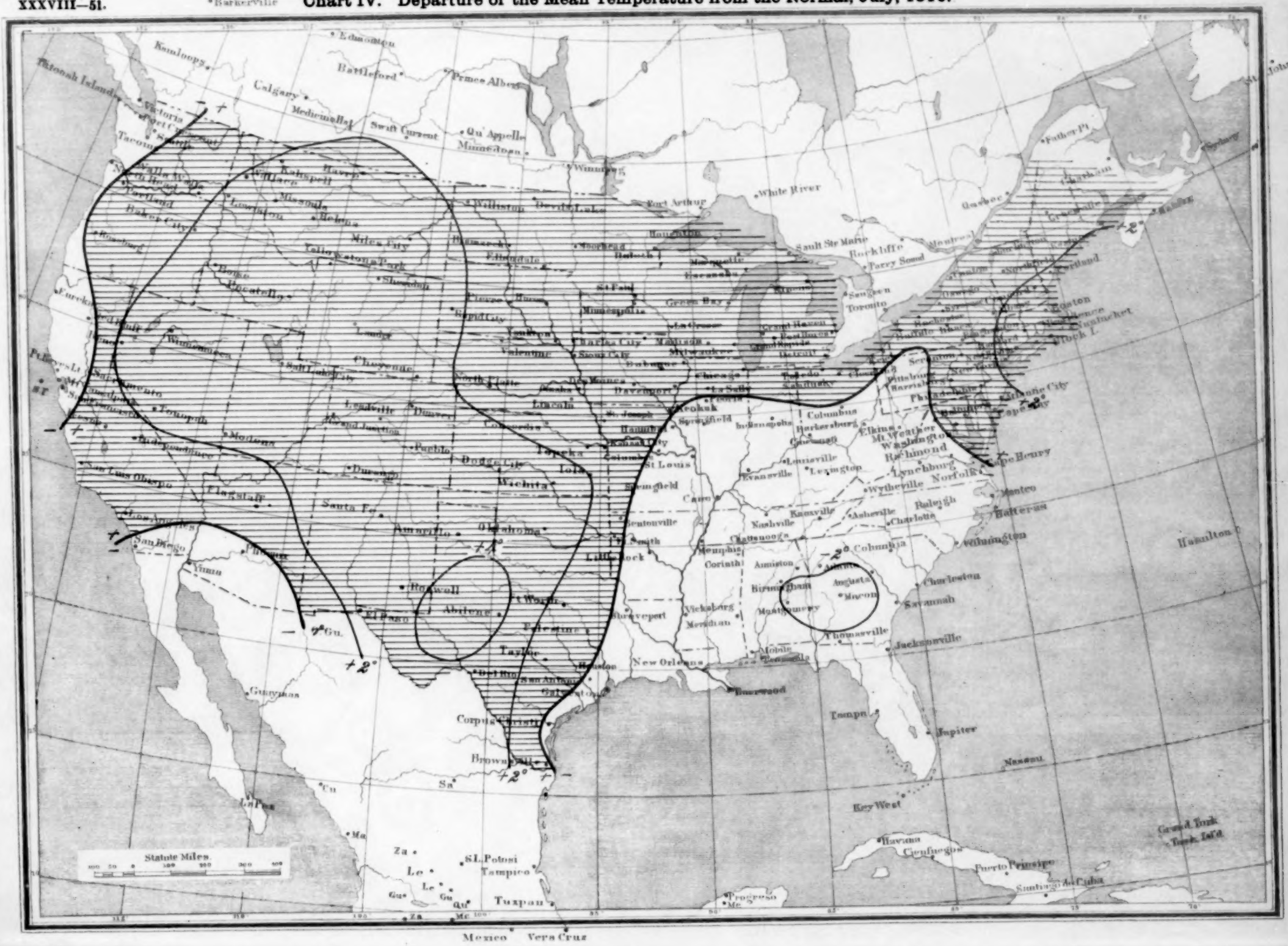

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Chart V. Total Precipitation, July, 1910.

Chart V. Total Precipitation, July, 1910.

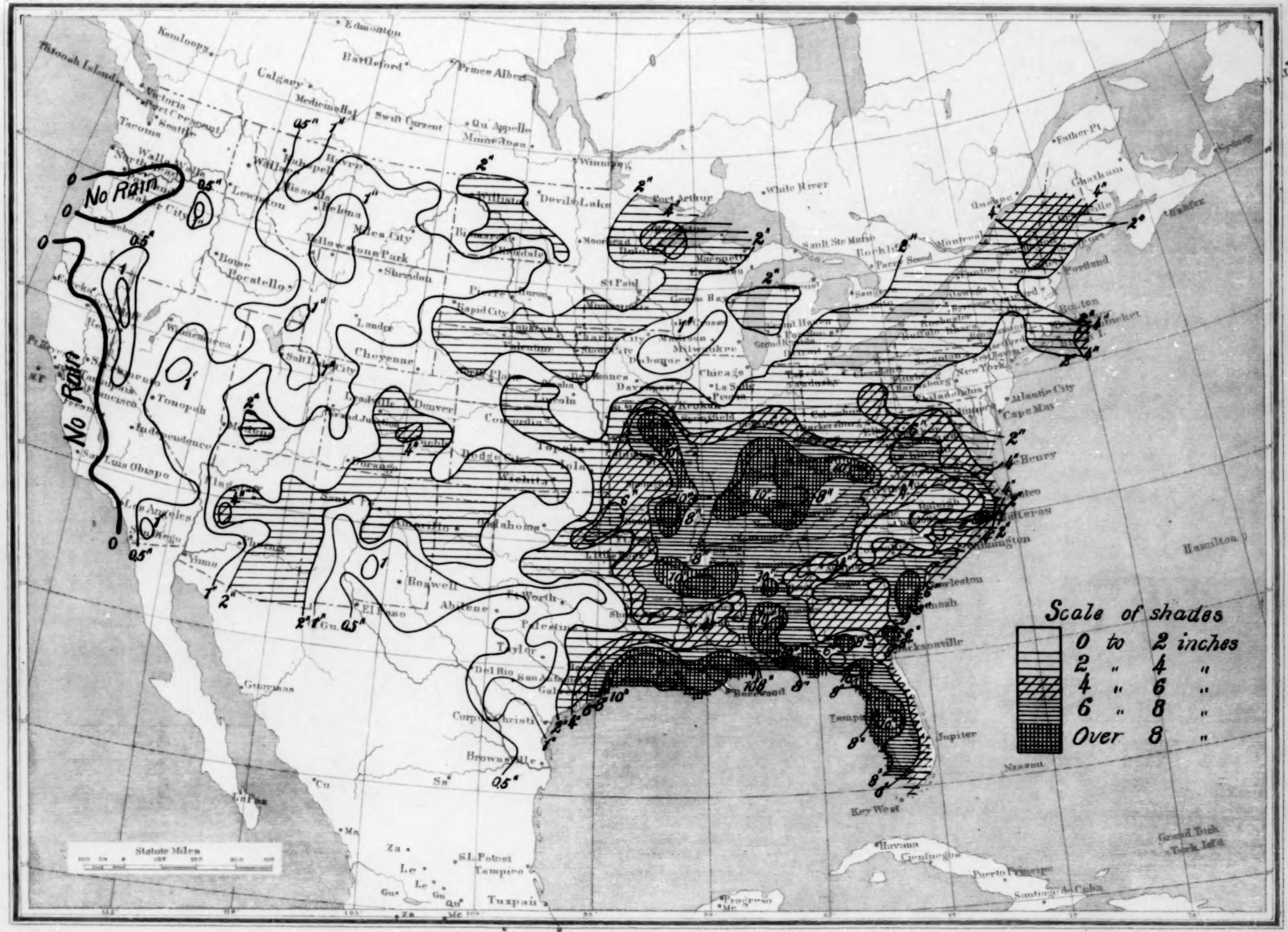

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Chart VI. Percentage of Clear Sky between Sunrise and Sunset, July, 1910.

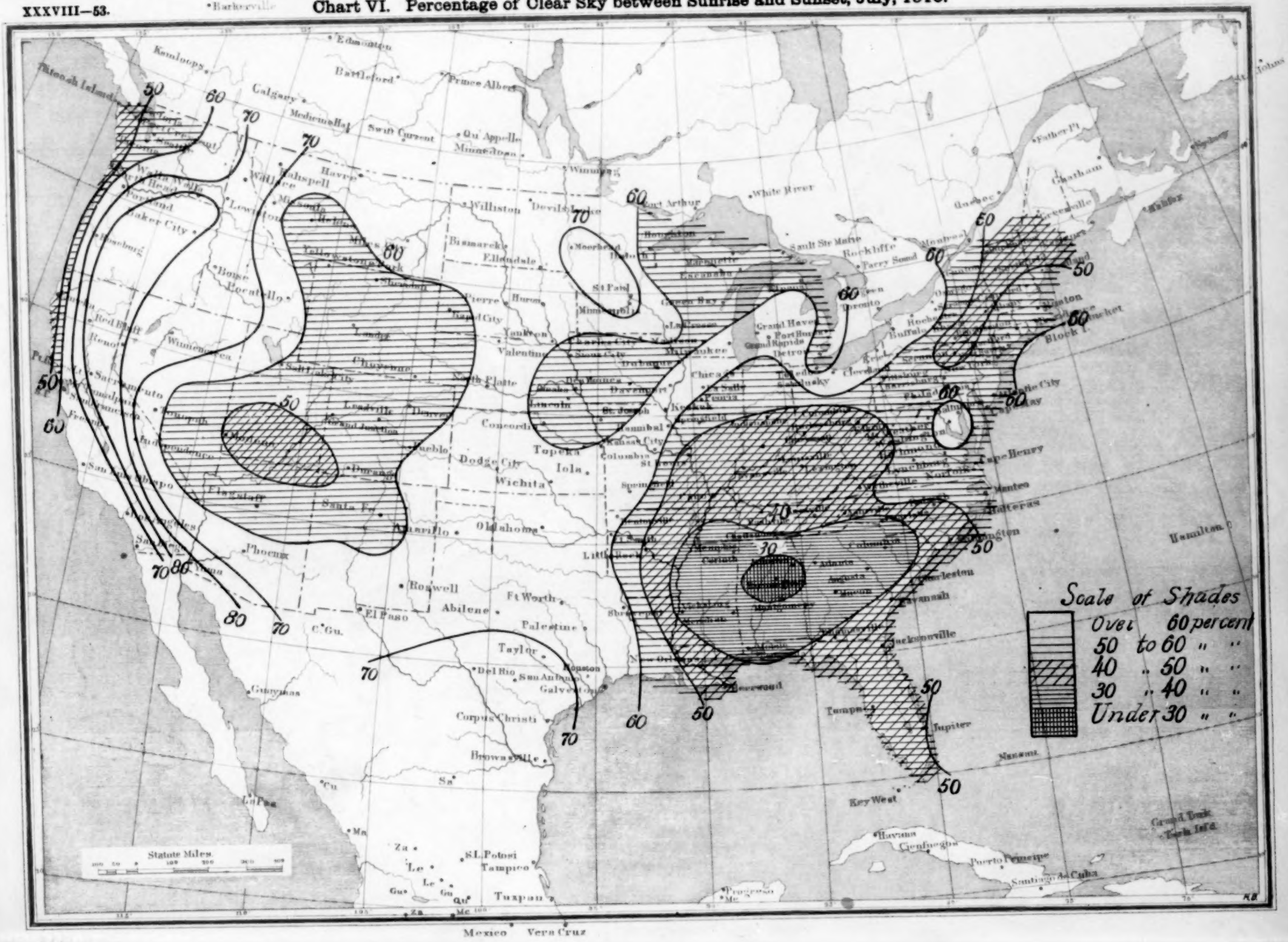

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Chart VII. Isobars and Isotherms at Sea Level; Prevailing Winds, July, 1910.
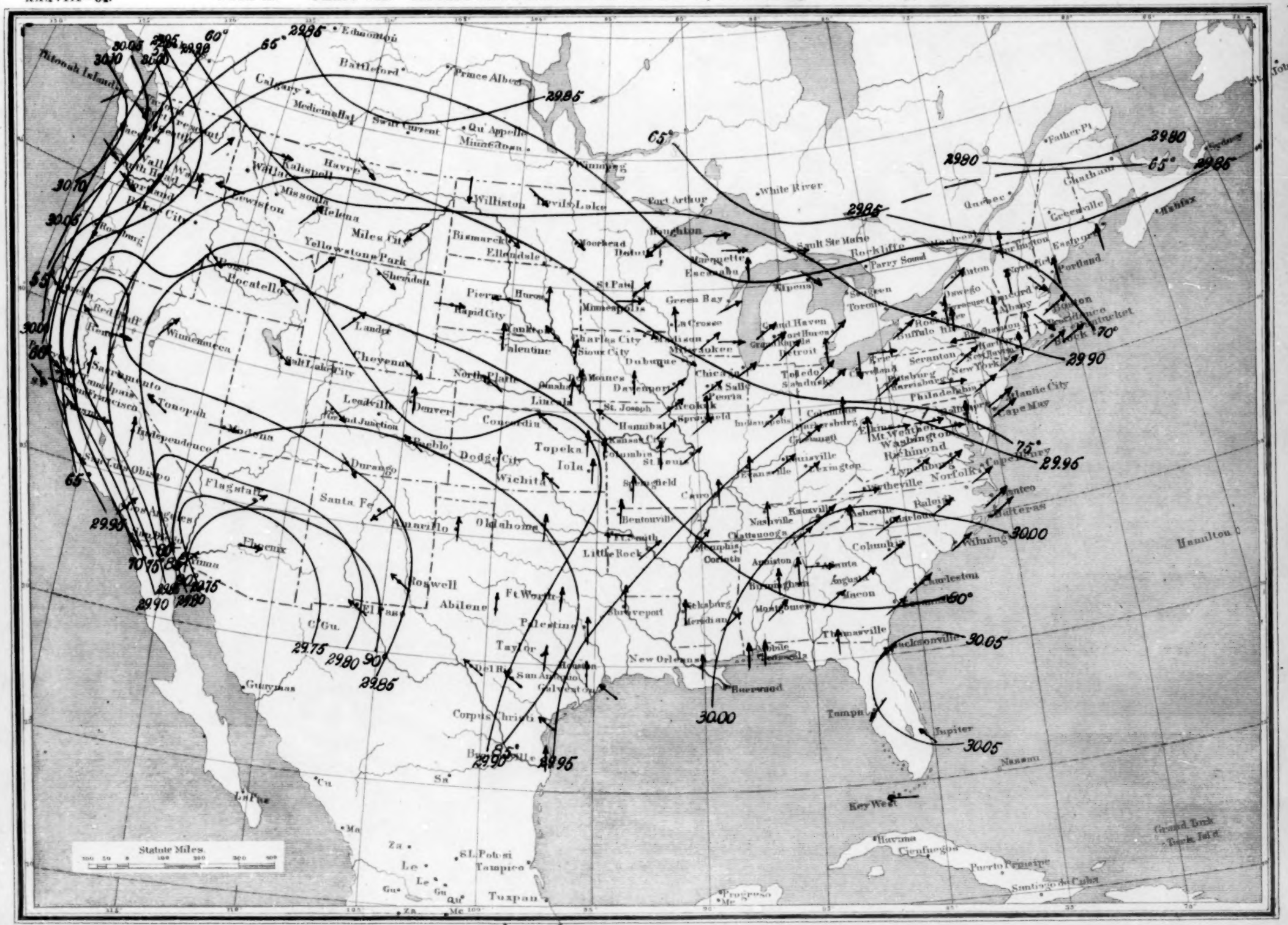
Chart VII. Isobars and Isotherms at Sea Level; Prevailing Winds, July, 1910.